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IN THE MATTER OF POLLUTION OF THE NAVIGABLE WATERS OF PEARL HARBOR AND ITS TRIBUTARIES IN THE STATE OF HAWAII. TECHNICAL SESSION OF THE CONFERENCE HELD AT HONOLULU, HAWAII ON JUNE 5-6, 1972. TRANSCRIPT OF THE PROCEEDINGS

Environmental Protection Agency
Washington, D. C.

1972

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OAHU
PEARL HARBOR

June 5-6, 1972
Honolulu, Hawaii

TECHNICAL SESSION

In the Matter of Pollution of the Navigable Waters of Pearl Harbor and its Tributaries-Hawaii

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THE TECHNICAL SESSION
OF THE
CONFERENCE
IN THE MATTER OF
POLLUTION OF THE NAVIGABLE WATERS
OF PEARL HARBOR AND ITS TRIBUTARIES
IN THE STATE OF HAWAII

held in
Honolulu, Hawaii
June 5-6, 1972

TRANSCRIPT OF PROCEEDINGS

CONTENTS

PAGE

Opening Statement - Mr. Stein.......... 5

Capt. L. G. Timberlake.......... 8

J. Bose.......... 21

Col. D. D. Gabe.......... 27

E. F. C. Lau.......... 33

L. H. Herschler.......... 38

J. W. Huidis.......... 51

R. D. Krause.......... 53

T. Hodges.......... 56
(resumes).......... 137

Mayor F. F. Fasi.......... 75

E. H. Hirata.......... 124

Dr. R. Marland.......... 129

Dr. L. S. Lau.......... 151

K. Hayashida.......... 166

R. E. Bell.......... 170

W. Dung.......... 191

M. Lepine.......... 206

W. J. Matthews.......... 211

C. Hertlein.......... 216

Summary - M. Stein.......... 219

- - -

The report includes statements and discussion on

The technical session of the conference in the matter of pollution of the navigable waters of Pearl Harbor and its tributaries in the State of Hawaii convened at 9:30 a.m., on Monday, June 5, for 1972, at the Princess Kaiulani Hotel, Honolulu, Hawaii.

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PROCEEDINGS

OPENING STATEMENT
BY
MR. MURRAY STEIN

MR. STEIN: The technical session of the conference on pollution of the navigable waters of Pearl Harbor and its tributaries, Hawaii, is in session.

We had a conference on September 21, 22 and 23 of 1971. At that time the problem was thoroughly analyzed and a remedial program was adopted, agreed to by the States and the Environmental Protection Agency for the Federal Government. We all thought that this program was an ambitious one, a realistic one, and an effective one, and the reason we are here today is to check on the progress which has been made and address ourselves to any slippages--that is the work of art we use in here for not meeting a deadline--which may occur. We do know in the history of pollution control throughout the United States that one of the major problems is that deadlines are not met and once we have a situation where deadlines are not being met, the problem in any major complex area, such as a city like Honolulu or any of the other major cities in the United States, these delays have a reaction on each other and the program begins to bog down.

The purpose of doing this in the open is for everyone to see what the situation is and, if we have any problems, where the problem lies. We have a pretty extensive agenda here and we also have a setup which was supposed to promote togetherness and get people to sit around the table so we could talk to each other, but it looks like a barrier. I would hope at least that the people and the staffs who are going to come up to make their presentations will try to come up to the table.

I would like to just briefly run through the agenda to give people an idea of when they are going to speak. I would ask that everyone try to be as brief as possible, and if we save time we can have more time for discussion or put other people on.

If you are not on the agenda or the time I am going to read and the approximate time is not suitable for you, I would suggest that you may want to get in touch with Mrs. Piere--would you stand up, Rheta--and make arrangements with her so we can hear you.

First we are going to hear from Captain Timberlake of the Navy, then Colonel Gabe of the Army, then the Air Force. All of these are approximately a half hour. Then Mr. Herschler of the Oahu Sugar Company, the Dole Company, the Del Monte

Corporation. Mayor Fasi will be on this afternoon, with Mr. Hirata of the Department of Public Works, from the City and County of Honolulu, at 2:30, the Division of Sewers, City and County of Honolulu, at 3, Division of Refuse Collection and Waste Disposal at 3:30, and Dr. Lau, Director of the Water Resources Research Center, at 4 o'clock today, which should be most of the day.

Tomorrow we will have the State Department of Agriculture, the Harbors Division of the State Department of Transportation, Hawaiian Electric, and the United States Coast Guard.

I have a detailed time on the agenda, but this will be the area in which we will call some people.

I note that we do not have any citizen representatives here on this list,and I don't know whether they want to make a contribution; but if they do, I suggest they get in touch with Mrs. Piere as soon as possible and we will try to work them in whenever we have an opportunity.

Before we begin, we are honored to have the presence of Congresswoman Patsy Mink with us at the conference,and I would like to introduce Congresswoman Mink and thank her very much for coming. She is the one who keeps after us in Washington, who keeps us honest.

Capt. L. G. Timberlake

We would like to call first on Captain Timberlake of the Navy.

Captain Timberlake.

CAPTAIN L. G. TIMBERLAKE
DISTRICT CIVIL ENGINEER
14TH NAVAL DISTRICT
HONOLULU, HAWAII

CAPT. TIMBERLAKE: Good morning, gentlemen. I am Captain L. G.Timberlake, District Civil Engineer for the 14th Naval District.

As you recall from the recommendations of the conferees at the September conference, the Navy was required to take action on six of the recommendations and to report periodically upon their progress. I am prepared now to give our reports on those three recommendations.

Item No. 1 is Recommendation No. 6, which was concerning the Navy sewage treatment facilities at NAS Barbers Point and Iroquois Point. Minding the Chairman's recommendation to be brief, I will read these and then will be available for questions or later commentary.

The Navy proposes to abandon its two primary treatment plants at these sites and conneet into the proposed

Regional Municipal treatment plant at Honouliuli. This is consistent with Federal objectives and is the most logical and economical approach, avoiding duplication of capitalization costs.

To assist and accelerate the city and county treatment plant construction program, approximately 48 acres of Navy land at the northeast corner of NAS Barbers Point was offered to the city and county for its plant site in August 1971. There has been clear acceptance of the site by the city and county. Negotiations are continuing over the relocation of certain Navy improvements presently encumbering the site. The Navy is presently supporting a military construction project in the Fiscal Year 1974 program for the revised on-base sewerage systems and for connection or usage charges, to be negotiated later, to tie into the proposed municipal treatment facility.

The possibility of interim upgrading of present facilities at NAS Barbers Point and Iroquois Point is being studied. Preliminary investigation indicates no single, simplified solution. However, the plant is receiving intensive maintenance, increased operator training has been instituted leading to higher efficiencies, and investigations into the use of settling chemicals have been pursued. Recent and continuing bacterial and chemical analyses near the plants' outfalls have

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Our second item is Recommendation No. 11, which concerned a schedule for the elimination of ship and vessel waste discharges.

A schedule to control vessel waste discharges into Pearl Harbor has been developed and submitted through the appropriate Navy channels. The program requires the incremental completion of two major military construction projects for "ship-to-shore" waste collection, and the status of these are as follows:

(A) Project numbered P-119, which is in our Fiscal Year 1973 program currently pending before the Congress.

This includes the piers at the submarine base.

The project is expected to be authorized and appropriated by the Congress.

Our preliminary cost engineering and estimates have been completed and submitted.

Architect and engineer contract for final design has been awarded to a local architect and engineering firm, Sam Hirota, Inc.

The projected design completion date is 30 November 1972.

And the projected start of construction will be early in 1973, once again conditioned upon the authorization and appropriation of the required funds by the Congress.

The second project is numbered P-991. This one is incremental. It will span a period of 2 fiscal years, the first being Fiscal Year 1974 and the second Fiscal Year 1975.

The first increment includes all major naval supply center, naval station and naval shipyard piers; and the second increment includes other piers which are less utilized and which thereby have lower priorities. The project will come before congressional committees in early spring of 1973, Calendar Year 1973, for authorization and appropriation in the Fiscal Year 1974 program with the follow-on for Fiscal Year 1975, 1 year later.

The Preliminary Cost Engineering has been authorized for both of these increments in anticipation of congressional approval.

And negotiations with an architect and engineer for the preparation of those PCE's is in progress.

A tentative completion date for the Preliminary Cost Engineering Report is August 1972.

We expect final design plans to be authorized in the spring of 1973 for the first increment, that work to be accomplished in FY 1974. A similar schedule is expected for the follow-on improvements in Fiscal Year 1975.

I might mention here that we fully anticipate that the preparation of the waterfronts in Pearl Harbor for the reception of sewage and other wastes from ships will have been completed prior to the time that the ships themselves, other than submarines, have been equipped for the retention and the later discharge of the sewage, so we are well on schedule.

Item No. 3 is Recommendation No. 17, which had to do with the thermal discharges from the Navy's powerplants, two only in Pearl Harbor.

The Navy is awaiting a State Department of Health ruling on the HECO Waiau Powerplant thermal discharges "in order to carry out its abatement measures in a manner commensurate with..." that decision.

In the interim, however, thermal measurements at the Navy powerplant discharge areas have been taken with the cooperation of the Pearl Harbor environmental data base team and these indicate that under normal operating conditions the zone of thermal influence is much smaller than originally anticipated and is primarily beneath or adjacent to the shoreline piers at the discharge points in waters which are classified as Class B.

An electric power distribution systems analysis has been completed in cooperation with the Hawaiian Electric Company and some related design work is under way. Negotiations are proceeding to phase out Navy power generation in the shipyard area as was originally reported. There then will remain only the need for boilers to produce industrial export steam at lower operating temperatures and pressures and those thermal discharges which are predicted from the lessened operating conditions will, we feel, be no problem.

That completes my report, Mr. Chairman.

MR. STEIN: Thank you, Captain.

Are there any comments or questions?

MR. O'CONNELL: Yes, I have a couple of questions.

I missed what you said, Captain Timberlake, about equipping the ships. Where does that stand?

CAPT. TIMBERLAKE: I am unable to report with authority where the schedule of implementation stands. I know that this, because it is a navywide problem and not one peculiar to Pearl Harbor, is being conducted by the Naval Ships Systems Command in Washington, D. C., under guidance received from the Chief of Naval Materiel and currently under study. And there have been some prototypes installed of macerators for the digestion of the wastes aboard the ship, and also some holding tanks aboard the ships, into which the sewage can be pumped and retained for later disposal ashore. Completion dates on those studies are not known to me.

MR. O'CONNELL: Do you expect that the ships will be equipped by the time that the improvements at Pearl Harbor are in operation so that they can be tied together?

CAPT. TIMBERLAKE: Some of them will have been.

MR. O'CONNELL: Has the Navy made a decision worldwide as to which system they are going to use, the holding tank or the on-board treatment?

CAPT. TIMBERLAKE: The decision is best described as a two-way one. It depends upon the class of the ship, the age of the ship, and its configuration on whether holding tanks will be incorporated or whether the macerators will.

Now, in the newest classes of ships which are being constructed both methods are under implementation, depending here again on the size, configuration and purpose of the ship.

MR. O'CONNELL: On the phaseout of Navy power, is there any date?

CAPT. TIMBERLAKE: We are shooting for calendar year 1973 to be in a position to purchase all of our power from Hawaiian Electric and at that time to completely shut off our own power production.

MR. O'CONNELL: Will that be both? You have two powerplants there?

CAPT. TIMBERLAKE: Yes, both.

MR. O'CONNELL: It will be both of those?

CAPT. TIMBERLAKE: Yes. In fact, one of them is nearly in a down status now. Because obviously this is an incremental thing. It will not be one day we are producing all our power, the next day we are producing none. We purchase a great deal of our power from HECO now.

MR. STEIN: Any other comments or questions?

MR. MINETTE: None.

MR. STEIN: If I understand what you said about power and the way you have looked at your zone of mixing and the phaseout, the Navy, then, I take it, intends to do nothing about thermal discharges pending the phaseout, is this correct?

CAPT. TIMBERLAKE: No, sir. It will depend upon the judgment that is finally rendered in the case of HECO's Waiau plant. And when we have learned what type of zone of mixing will be authorized other than the interim one which has currently been authorized for that plant, we then will plot our own course of action and if some kind of thermal discharge corrective measure is required, we will so implement it.

MR. STEIN: Well, you know, we always get to this question if you have to implement it. That is going to take some time, and you are going to phase out the powerplant. You may be phasing out before the implementation schedule is here. The way I see this moving, if we are going to look at this in a practical way, that the Navy is not moving to do anything about that thermal discharge, and I don't say there is any problem there, and you probably feel that the phaseout will take place before you have to do anything.

CAPT. TIMBERLAKE: Mr. Stein, I didn't explain it well enough.

Our first studies, which indicated the magnitude of our thermal discharge problem, were, I am embarrassed to say, totally erroneous. The information we had was bad, the data we had collected was improperly interpreted, and the area under the influence of those discharge points was overdescribed by many degrees.

When we became more interested in this problem, and this was about the time of the conference last September, we went back to take some harder looks, some more professional looks, and to apply some better analyses than we had used before, and the results of those later studies have shown that the problem is not a severe one. Nevertheless, obviously, the water being discharged from those plants is heated. If it is heated too much and requires a zone of mixing greater than that which is approved for the Waiau plant, then of course we will implement corrective measures. I would imagine, however, that there will have to be a tradeoff at that point depending on whether corrective measures can be applied prior to the time--

MR. STEIN: You know, I don't want to make too big a point of this, but I think I understand what you are saying. I am not trying to dispute any of the facts of your judgment here. The point is, your careful analysis indicates that the effects of the heat on the water from Navy installations are much less than was thought at first.

The second fact is that you have plans to phase these out entirely and buy all your electricity from private sources. Therefore, unless you are told by the State, you have no present intention of doing anything about controlling those heated discharges. Looking at the facts of the control of heated discharges, I think usually it is not a program that can happen overnight. There is the probability, then, if this is the situation, and even if the State or we come up with something, that the phaseout might take place before any corrective measures will be taken.

So as far as naval discharges are concerned, you have come to the conclusion that they are less than you thought they were at first, or everyone thought they were at first, and with the phaseout program there probably will not be construction or corrective action taken for those discharges.

CAPT. TIMBERLAKE: That is a very good summary, yes, sir.

MR. STEIN: All right.

Now, let us go back to No. 11. I think there I would like to solicit your cooperation a bit if this is at all possible. On its face it says that the Navy shall provide for financing or such controls no later than July 1, 1972--and I know what the situation is, because we go before the Congress too, and we don't always get the money when we think we might want to have it--and shall commence implementation of its schedule no later than September 1, 1972.

Now, on its face I might say that while I think your report indicates that you are really moving forward on this program, the question may be raised how much after 1972 are we going to go. Some of the figures you gave--and I am not talking about the 1974-1975 figures which depend upon appropriation, but, for example, let's assume for the first project you talk about you get your appropriation in this Session of Congress. Then you say you are going to let your contract or begin construction early 1973. Now, can we be a little more specific about what we mean by early 1973?

CAPT. TIMBERLAKE: Yes, sir.

Let me say first that I think we have answered the recommendation itself in that I have ordered a final design for this first process so that we have bettered the 1 July date for beginning of corrective measures. Final design is under way, which is, of course, an integral part of the entire recommendation.

I suspect the Congress to have completed its deliberations and reported out a bill and for apportionment to have occurred sometime in September of 1972. Now, this may be an optimistic anticipation, but that is what I am looking for.

It is at that time that we will begin to put together the papers that are preliminary to the issuance of invitations for bids and by the end of November of 1972 I expect to have on the streets the advertisements requesting contractors to bid upon the project. I will give them about 6 weeks, which will take them into the middle of January, to prepare their bids.

In the middle of January we open the bids and it takes about 3 weeks for us to examine those bids, get the necessary clearances from the necessary people and to make an award, which takes us then into about the first week in February.

It will take the contractor, knowing that he has the award, the remainder of February to mobilize his forces to begin construction, and I will expect the first nail to be driven and the first pipe to be delivered in about the first of March 1973.

MR. STEIN: That is fine.

Are there any further comments or questions?

I would like to thank you very much, Captain Timberlake. I think the Navy is to be commended by really addressing itself to specifics of the program and moving forward as fast as I think government problems will permit. I wish we could let a contract that fast after getting a bid, as fast as you do out here. We are going to have to look into that.

Thank you very much, sir.

CAPT. TIMBERLAKE: Thank you, sir.

MR. STEIN: We have a few minutes here. I would like to call on Mr. Bose now from Maui. Will you come up? We are not covering anything but the Pearl Harbor situation in our jurisdiction, but since you have come here and have to get back to Maui, we will be glad to receive your statement.

20(a)

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E.P.A. REGION IX
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HEADQUARTERS
FOURTEENTH NAVAL DISTRICT
BOX 110
FPO SAN FRANCISCO 96610

IN REPLY REFER TO:
48A:MJKM:de
2407

JUL 14 1972

Mr. Paul DeFalco, Jr.
Regional Administrator
Region IX
Environmental Protection Agency
760 Market Street
San Francisco, California 94102

Dear Mr. DeFalco:

Conclusions and recommendations reached by the Water Pollution Enforcement Conference on Pearl Harbor in September, 1971 contained a requirement for a semi-annual progress report with respect to the recommendations contained therein. The Navy was to provide a progress update on recommendation numbers 6, 11, and 17 of the basic report beginning December 31, 1971. You will find the progress update as of 30 June 1972 enclosed.(enclosure (1)).

In addition to the recommendation numbers discussed above, the Navy has a vested interest in recommendation number 5, i.e., the first phase of the Honouliuli Wastewater Treatment System. As stated in recommendation number 6, the Navy sewage treatment facilities at Barbers Point Naval Air Station and Iroquois Point are to be abandoned and the respective sewerage systems connected to the Honouliuli municipal system by December 31, 1974.

Following the spirit and intent of the Enforcement Conference, as well as the directive of compliance placed upon Federal agencies by Executive Order 11507, the Navy has taken the necessary steps to meet the December 31, 1974 deadline. Capital improvements necessary for this changeover are now within the Navy planning and budgeting process and construction should be completed by the end of 1974. This schedule is presented in enclosure (2).

The City and County of Honolulu has recently released a revised schedule for construction of the Honouliuli municipal system which delays the completion of Phase 1 until December 31, 1976. Such a change will result in Federal investment in terms of Navy construction being in place but unusable for a two-year period.

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Interim measures now in effect at the Navy treatment facilities would probably come under severe criticism if extended beyond 1974. To alleviate treatment deficiencies would require costly, short-range improvements to the treatment plants themselves. Obviously, neither of these alternatives is in the best interests of the Federal taxpayer or the community's environment.

We have reviewed the City and County of Honolulu's revised design and construction schedule. From our knowledge and experience in design and construction of similar facilities, and after discussions with knowledgeable A-E firms, we strongly feel that the Honouliuli system could be completed earlier than now planned. In particular, we feel time could be saved by (1) separating the project into three major areas of construction (STP, outfall, and collection system); (2) proceeding with study, design, and construction of all three areas concurrently; and (3) placing orders for longer lead time items of equipment well in advance of construction contract award. By our analysis, shown in enclosure (3), the project completion time could be reduced by 14 months. Enclosure (4) is included to show the actual time frame required for a similar military project.

We note in the City's schedule that considerable time is allocated for oceanographic research relative to outfall construction. The Navy is willing to make available to the appropriate City consultant certain information applicable to the project areas which may be of assistance in designing the proposed ocean outfall. A comprehensive U.S. Navy Hydrographic Office Report (H.O. Publication No. 1023 dated June, 1956) entitled Harbor Defense Atlas - P.H. and Honolulu Approaches contains oceanographic, climatological, and hydrographic information on the eastern periphery of the area contemplated for outfall construction. The only copy of this unclassified report readily available is in the possession of Mr. Joseph Walters, Pacific Ocean Division, Corps of Engineers, but is of such a size and condition as to be reproducible. Arrangements for examining the report may be made directly with Mr. Walters at telephone 543-2871. The original "smooth" charts which were the basis for the current C&GS Nautical Chart 4133 in that offshore area may be of benefit as they contain more detailed depth information and are drawn to a 1:10,000 scale (vice 1:20,000 scale for the published chart). Arrangements to examine these "smooth" charts may be made through our office.

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In addition, the Naval Environmental Prediction Research Facility (c/o Fleet Numerical Weather Central), Monterey, California have a computerized model study for oceanographic analysis which may be of interest. If the City and County desires, more information on this program and its accessibility will be obtained. We hope this information will materially assist in reducing the time projected by the City and County to complete the design portion of the Honouliuli system (Phase 1).

Sincerely,

L. G. TIMBERLAKE
CAPTAIN. CEC. USN
DISTRICT CIVIL ENGINEER
BY DIRECTION OF THE COMMANDANT

Encls: a/s

Copy to:
CNO (OP-45)
COMNAVFACENGCOM
COMPACNAVFACENGCOM
EPA PAC.IS. BASIN
State OEQC
State DOH
C&C Public Works
 Dept (w/encls 2,3 & 4)

JUNE 30, 1972

PEARL HARBOR WATER POLLUTION ENFORCEMENT CONFERENCE
SEMI-ANNUAL PROGRESS REPORT - NAVY

RECOMMENDATION 6: Navy Sewage Treatment Facilities at NAS Barbers Point/Iroquois Point

The Navy proposes to abandon its two primary treatment plants at these sites and connect into the proposed Regional Municipal treatment plant. This is consistent with Federal objectives and is the most logical and economical approach, avoiding duplication of capitalization costs.

To assist and accelerate the City and County (C&C) treatment plant construction program, approximately 48 acres of Navy land at the northeast corner of NAS Barbers Point was offered to the C&C for its plant site in August, 1971. There has been clear acceptacne of the site by the C&C. Negotiations are continuing over the relocation of certain Navy improvements presently encumbering the site. The Navy is presently supporting a Military Construction project in the FY74 program for the revised on-Base sewerage systems and connection/usage charges (to be negotiated) to tie into the proposed municipal treatment facility.

The possibility of interim upgrading of present facilities at NAS BARPT and Iroquois Point is being studied. Preliminary investigation indicates no single, simplified solution. However, the operation and maintenance program has been enhanced, including operator training, and through this approach higher plant removals have been effected. Water quality monitoring to date has shown the water near the plant's outfall to be within acceptable limits.

RECOMMENDATION 11: Navy Schedule to Control Vessel Waste Discharges into Pearl Harbor

A schedule to control vessel waste discharges into Pearl Harbor has been developed and submitted through the appropriate Navy channels. The program requires the incremental completion of two major Military Construction Projects for ship-to-shore waste collection, the status of which are as follows:

(a) PROJECT P-119 (FY73 Military Construction Program)

   a. Includes SUBASE piers.
   b. Project authorized and appropriated by Congress.

ENCLOSURE (1)

c. Preliminary Cost Engineering complete.

d. A-E contract for Final Design awarded to Sam Hirota, Inc.

e. Projected design completion date - 30 Nov 1972.

f. Projected start of construction - early 1973.

(b) PROJECT P-991 (Incremental - FY74 and '75 Military Construction Program)

a. First increment includes all major NSC/NAVSTA/NSYD piers; second increment includes least utilized, lower priority piers. Project will come before Congressional Committees in early 1973 for authorization/appropriation.

b. PCE (Preliminary Cost Engineering) report is now being prepared by Kennedy Engineers, Inc.

c. Completion date for PCE is September, 1972.

d. Final Design plans expected to be authorized in Spring, 1973.

RECOMMENDATION 17: Thermal Discharges, Power Plants 2 & 3

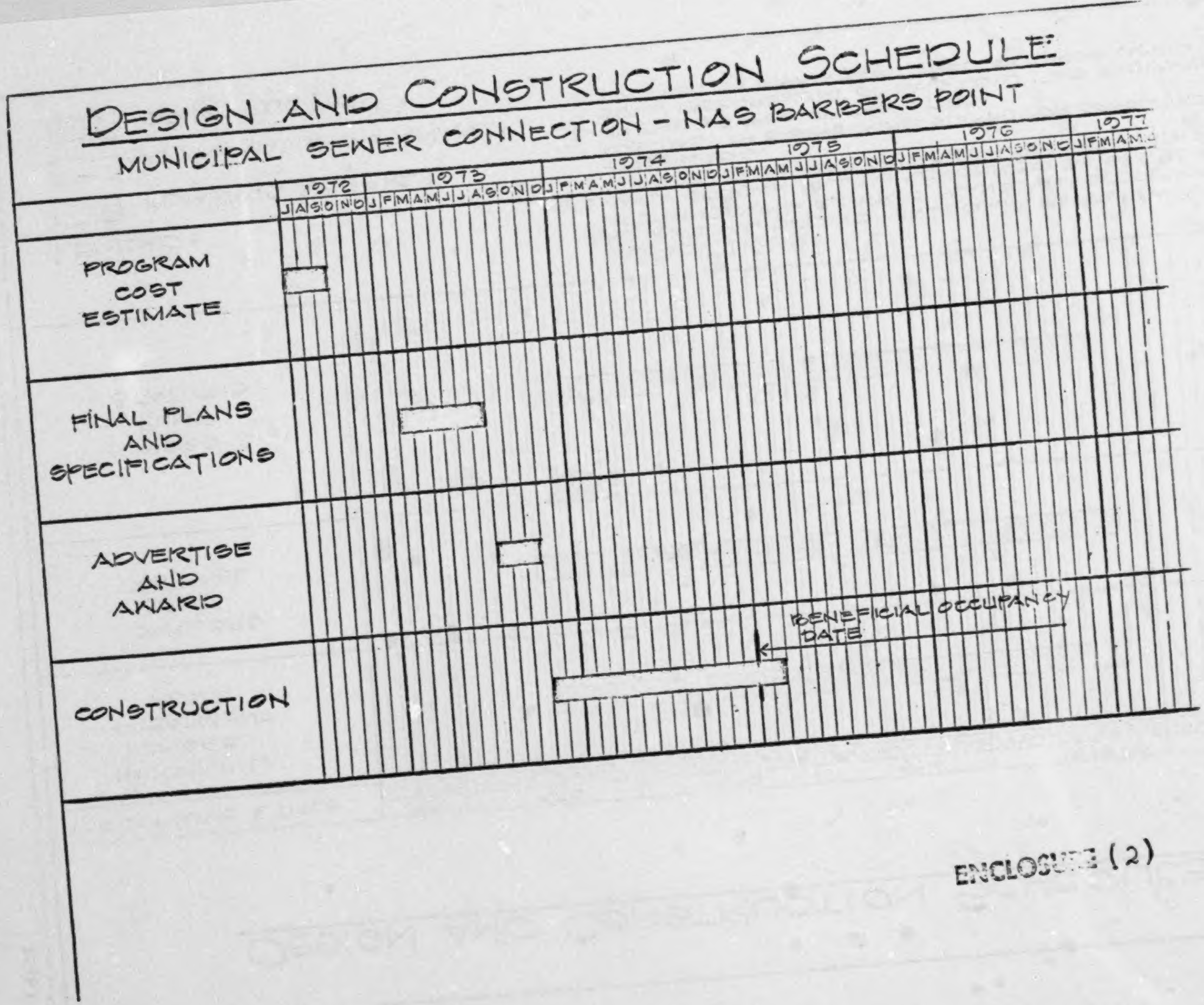
An electric power distribution systems analysis has been completed in cooperation with HECO, related design work is underway, and negotiations are proceeding to phase out Navy generation of electricity. This evolution should be completed in 1974 and result in the abatement of the pollution referenced in the Recommendation.

The present normal power plant operating conditions have been monitored with the cooperation of the Naval Civil Engineering Laboratory, Pearl Harbor Environmental Data Base Team. The results show the zone of thermal influence is much smaller than originally thought, both now and for future plant operations.

The attached charts marked enclosure (5) show existing conditions and conditions as they are projected to exist after cessation of electrical generation. The condition shown for Power Plant 2 in 1974 was, in fact, measured during actual reduced operations in 1972, identical to future operation conditions. In 1974, Power Plant 3 will have only a small discharge from auxiliary units and it is not expected that a thermal zone of influence will result from this operation.

To summarize, after the 1974 power generation phaseout, Power Plant 3 will have no thermal discharge and Power Plant 2 will produce only a slight rise in water temperature immediately beneath the piers adjacent to the facility. These waters are Class "B".

This Navy action is commensurate with the State of Hawaii's intention that the HECO Waiau Power Plant select an engineering plan to cool its thermal discharge by November, 1972. Design and construction of the necessary cooling structures will probably follow within the next year. The completion of any HECO thermal abatement construction work would therefore occur at approximately the same time the Navy phases out its routine power generating operations.

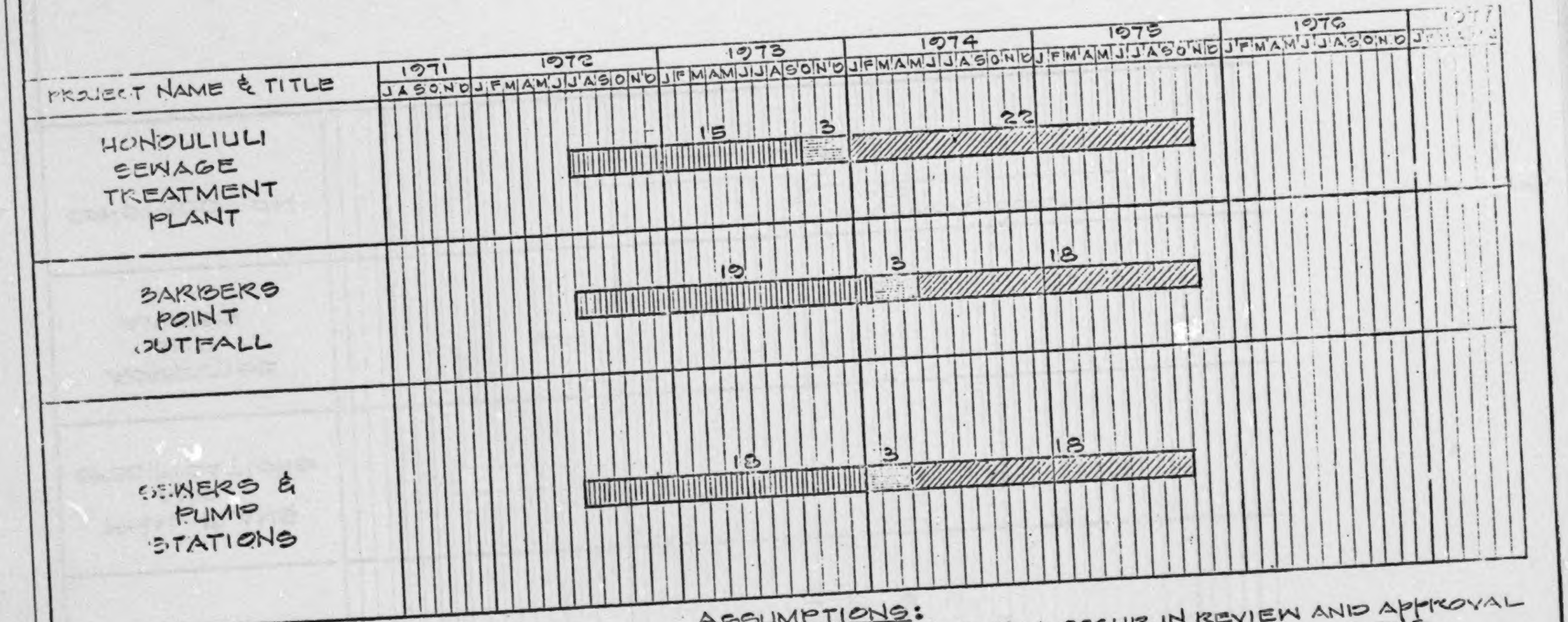


DESIGN AND CONSTRUCTION SCHEDULE:

MUNICIPAL SEWER CONNECTION - NAS BARBERS POINT

ENCLOSURE (2)

DESIGN AND CONSTRUCTION SCHEDULE



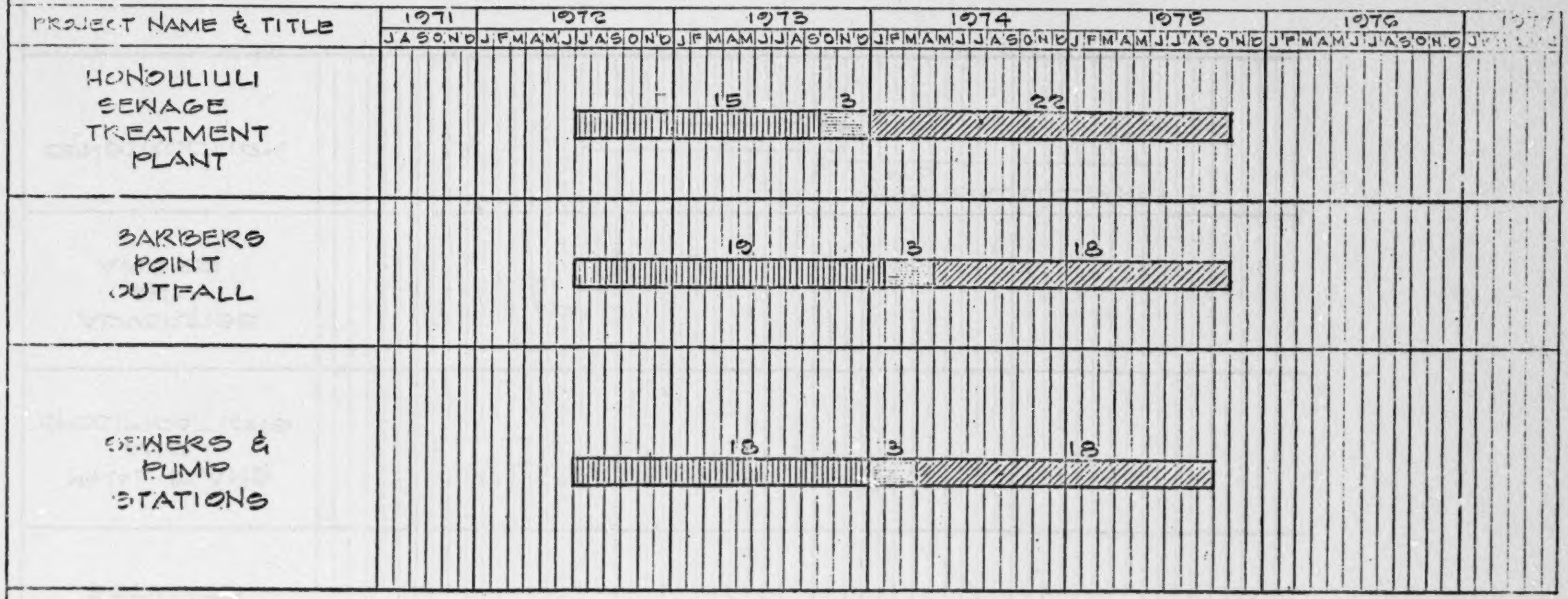
LEGEND:

- ▥ PLANNING & DESIGN
- ☐ APPROVAL BID & AWARD
- ▨ CONSTRUCTION

ASSUMPTIONS:

1. NO UNUSUAL DELAYS WILL OCCUR IN REVIEW AND APPROVAL OF ENGINEERING REPORTS, PLANS AND SPECIFICATIONS.
2. EARLY DECISION WILL BE RENDERED BY STATE AND FEDERAL AGENCIES AS TO PROJECT'S ABILITY TO COMPLY WITH WATER QUALITY STANDARDS.
3. ADEQUACY OF ENGINEERING STAFFS FOR CONCURRENT DESIGNS OF THE 3 TYPES OF FACILITIES.
4. EARLY PROCUREMENT OF LONG LEAD TIME EQUIPMENT.
5. AVAILABILITY OF NAVY OBTAINED OCEANOGRAPHIC DATA.

DESIGN AND CONSTRUCTION SCHEDULE



LEGEND:

▥ PLANNING & DESIGN

☐ APPROVAL BID & AWARD

▨ CONSTRUCTION

ASSUMPTIONS:

1. NO UNUSUAL DELAYS WILL OCCUR IN REVIEW AND APPROVAL OF ENGINEERING REPORTS, PLANS AND SPECIFICATIONS.
2. EARLY DECISION WILL BE RENDERED BY STATE AND FEDERAL AGENCIES AS TO PROJECT'S ABILITY TO COMPLY WITH WATER QUALITY STANDARDS.
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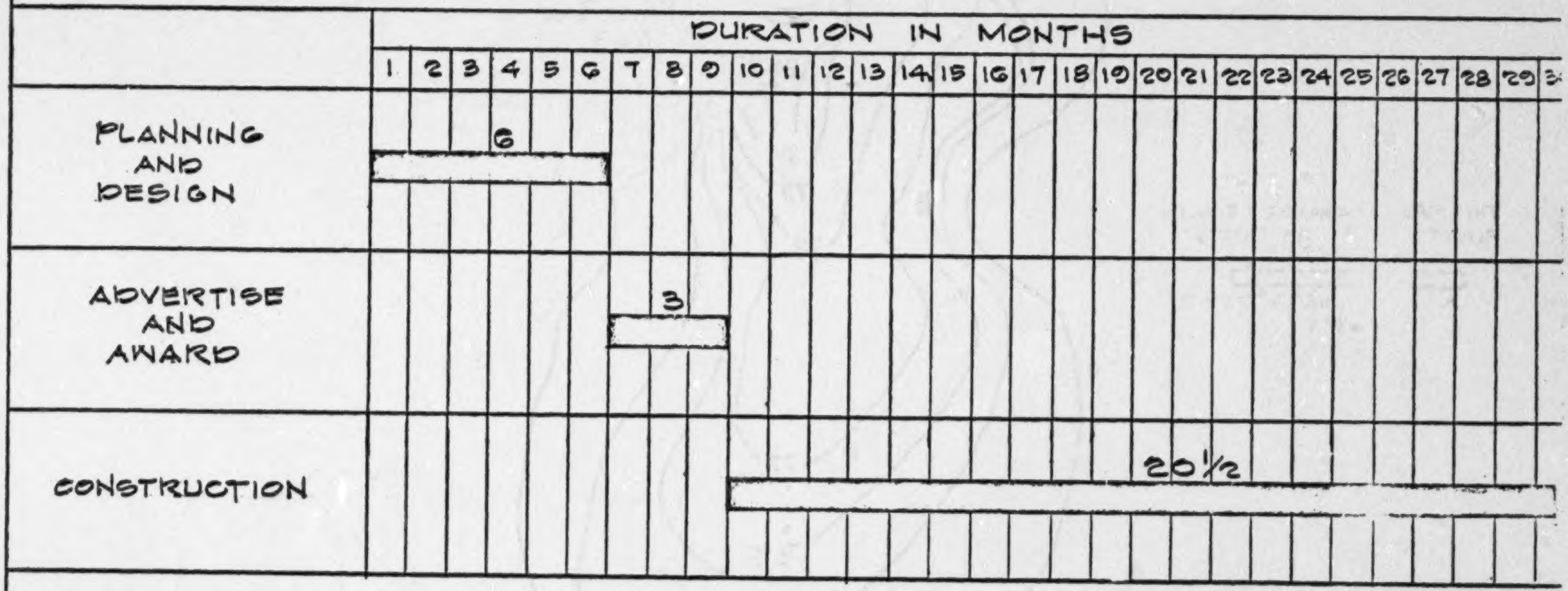
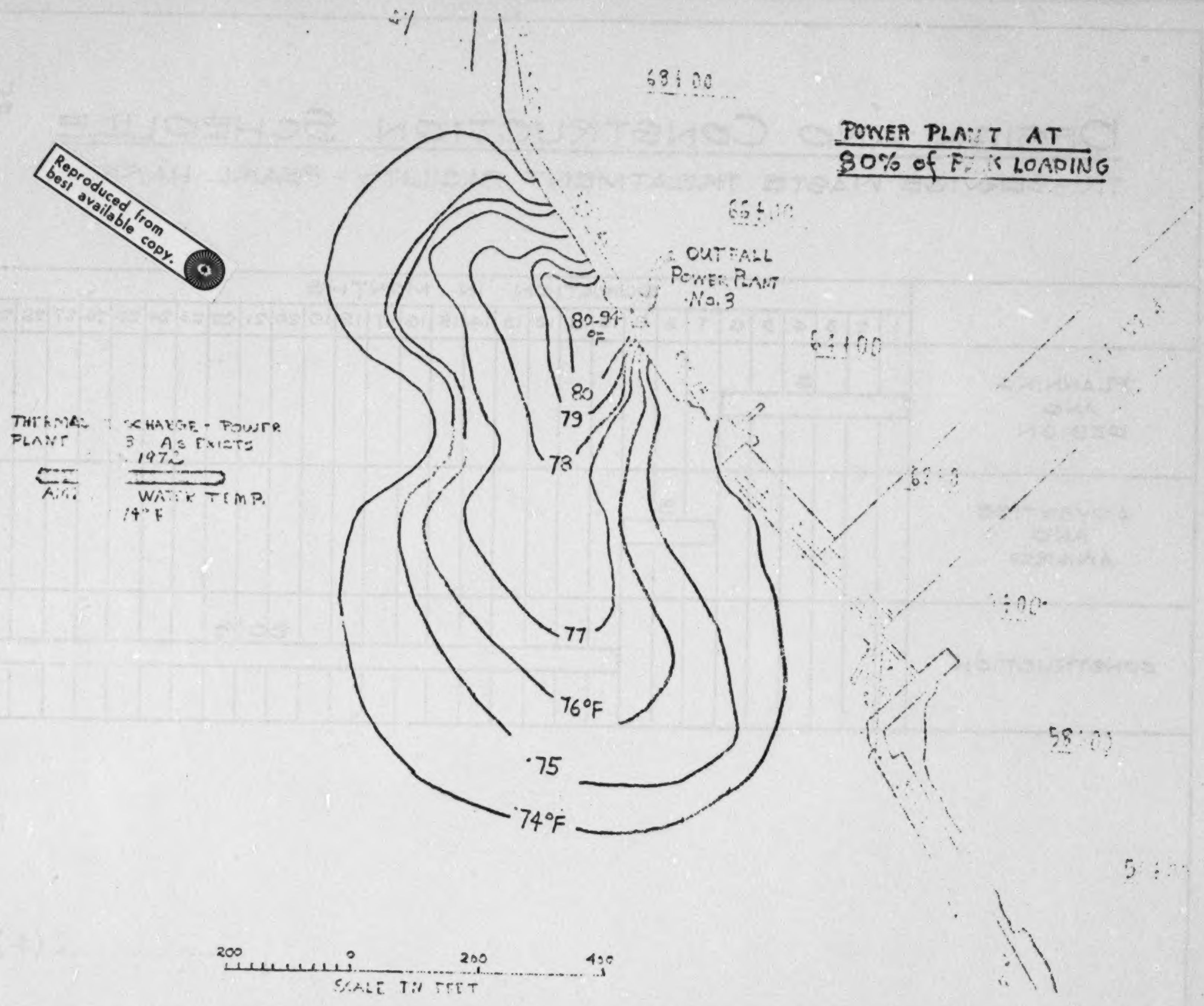
4. EARLY PROCUREMENT OF LONG LEAD TIME EQUIPMENT.
5. AVAILABILITY OF NAVY OBTAINED OCEANOGRAPHIC DATA.

DESIGN AND CONSTRUCTION SCHEDULE

TRI-SERVICE WASTE TREATMENT FACILITY - PEARL HARBOR



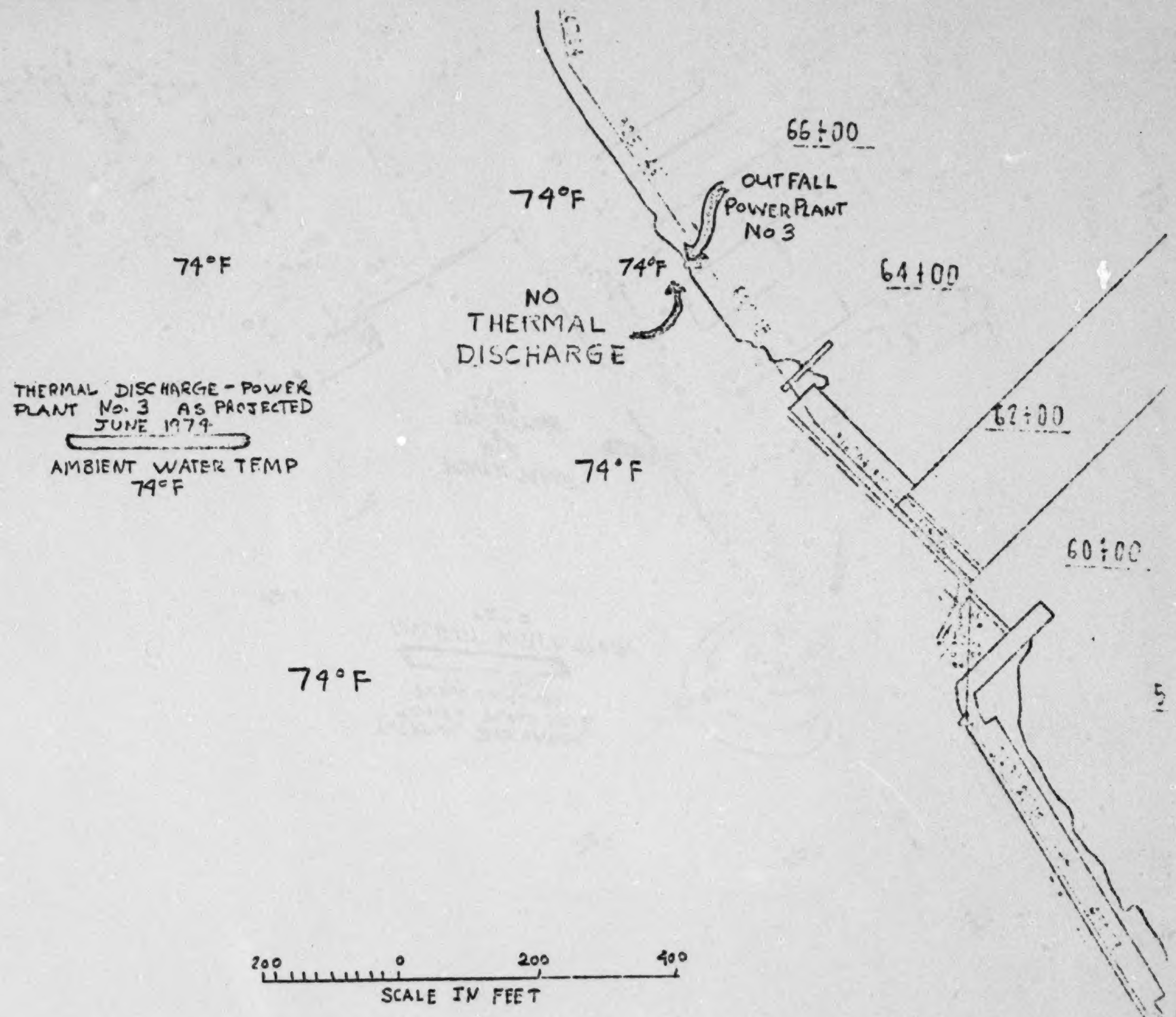
ENCLOSURE (4)



POWER PLANT AT 80% of P[illegible]K LOADING

68+00
66+00
64+00
62+00
58+00
OUTFALL
POWER PLANT
No. 3
80-94 °F
80
79
78
77
76°F
75
74°F
THERMAL DISCHARGE - POWER PLANT 3 - AS EXISTS 1972
AIR
WATER TEMP. 74°F
200
0
200
400
SCALE IN FEET

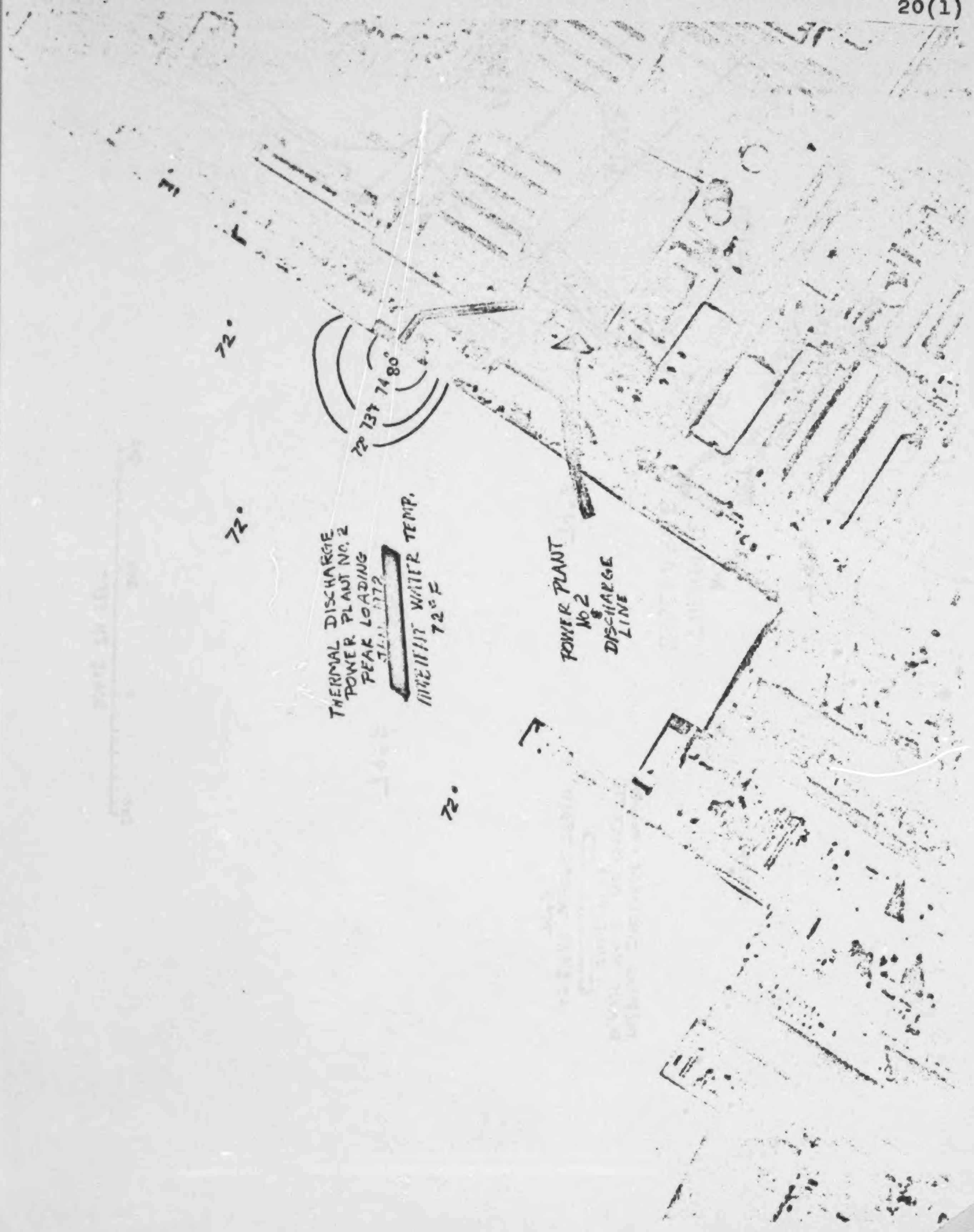
Reproduced from best available copy.

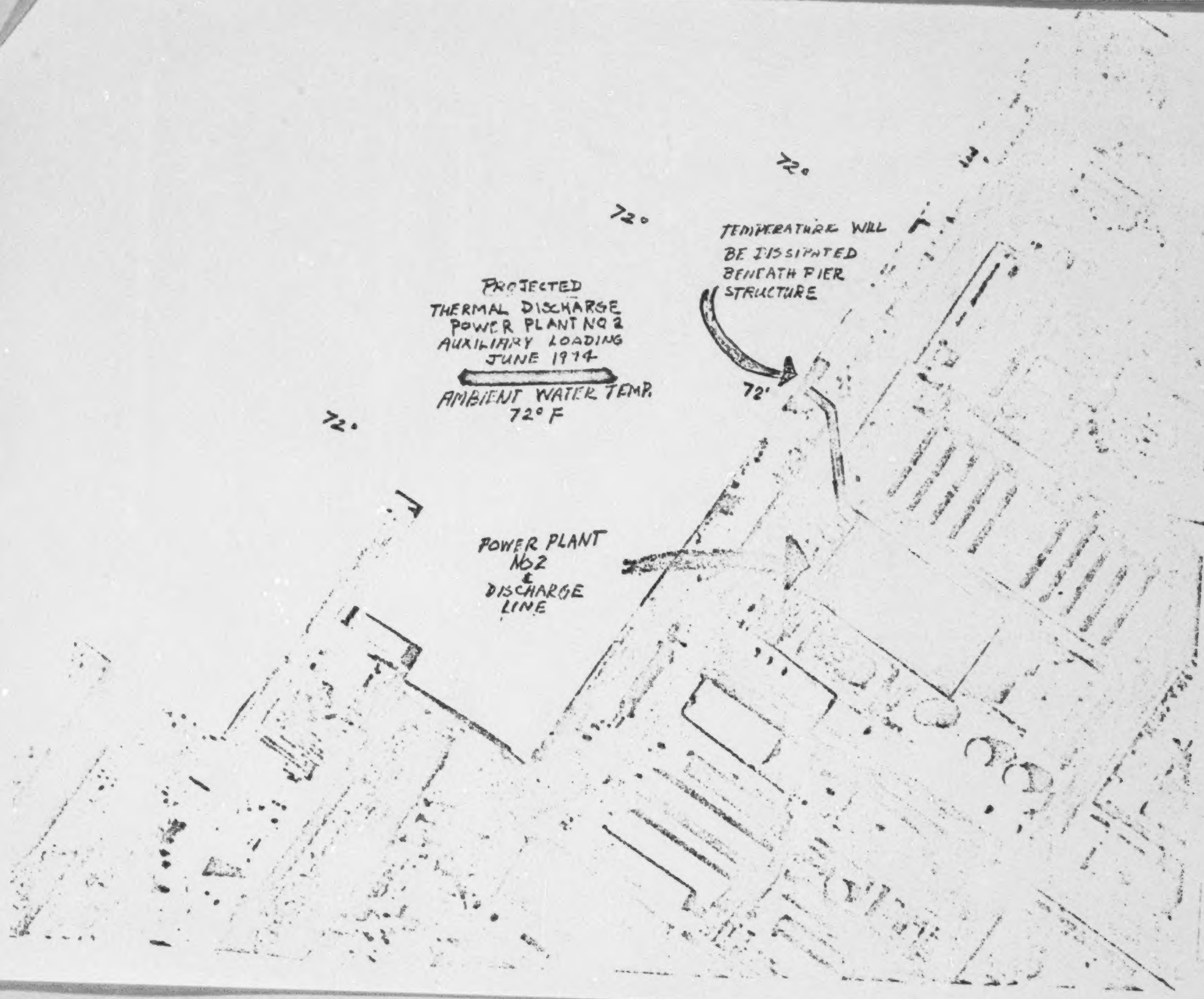


THERMAL DISCHARGE - POWER PLANT No. 3 AS PROJECTED JUNE 1979

AMBIENT WATER TEMP 74°F

66+00
OUTFALL POWER PLANT No 3
74°F
74°F
74°F
64+00
NO THERMAL DISCHARGE
62+00
74°F
60+00
74°F
200
0
200
400
SCALE IN FEET


72°
72°
72°
72° 73° 74 80°
THERMAL DISCHARGE
POWER PLANT No. 2
PEAK LOADING
JU[illegible] 1972
AMBIENT WATER TEMP.
72° F
POWER PLANT
No. 2
DISCHARGE
LINE


PROJECTED
THERMAL DISCHARGE
POWER PLANT NO 2
AUXILIARY LOADING
JUNE 1974
AMBIENT WATER TEMP.
72° F
TEMPERATURE WILL
BE DISSIPATED
BENEATH PIER
STRUCTURE
72°
72°
72°
72'
POWER PLANT
NO2
&
DISCHARGE
LINE

JOHN BOSE

MAUI ENVIRONMENTAL INFORMATION CENTER

HAIKU, MAUI, HAWAII

MR. BOSE: Thank you. I appreciate very much this opportunity. I don't think Maui will rate a conference such as this and I think the things I have to say do relate very definitely to the situation in Pearl Harbor.

My name is John Bose. I am a resident of Haiku, Maui, where I operate a volunteer Environmental Information Center.

This brief statement concerns certain misplaced priorities in State and Federal funding which relate to efforts to end sewage pollution of Pearl Harbor.

The State Legislature has recently passed a capital improvements program which includes State support for a 3 mgd/day treatment plant for the Kihei-Wailea area of Maui. The present population of Kihei is approximately 1,500. The population of Wailea, a planned development of Alexander and Baldwin, Inc., and Northwestern Mutual Insurance Company, is approximately zero. Northwestern Mutual would like to build a hotel in Wailea if someone will provide them with a sewage treatment plant.

In the current Maui County budget, $6.1 million of bond revenues were allocated for the Kihei-Wailea system. The State participation was expected to be $1.58 million. Last Friday the Mayor informed the citizens of Maui that the State would advance retroactive Federal funds that are expected to be forthcoming when the project qualifies. Since a reasonable population will presumably be needed to qualify for Federal support, the State will become a party in promoting a large infusion of new residents into Maui. If the Federal Government indeed comes through with their anticipated 55 percent, the EPA will be in a position of promoting the need for sewerage systems after they have been built. The same State government that pleads a lack of funds to finance secondary treatment for Honolulu seems to have plenty of money to support private speculation on Maui.

Meanwhile, Lahaina, on Maui, with a pollution problem of long standing, has received a measly $300,000 of county money for its sewer system. The funding plan, as shown in the 1973 CIP budget of Maui County,calls for 6 percent County, 12 percent State, and 82 percent Federal support. If this ratio can be used for Lahaina, it should also apply to Honolulu. If it will not work, someone needs to inform the citizens of Maui that their plan is unrealistic.

In anticipation of the State and Federal windfall detailed above, the Mayor has already requested a transfer of

$1,350,185 from sewer projects to other uses. He said that the State sewage advances mean that "everything is falling into place beautifully." I certainly hope that Honolulu fares as well.

The information in this statement is only the tip of the iceberg relative to the fantastic situation that is developing on Maui. I beg the EPA and State agencies to come to Maui to see for themselves what is going on.

And I brought with me a collection of documents, the county budget, the county budget changes, newspaper articles, etc., to back up the points that I have made in this statement.

Thank you.

MR. STEIN: Are there any comments on this?

DR. MINETTE: No.

MR. O'CONNELL: I would like to ask regarding the statement that you made about Lahaina where they are planning on 82 percent Federal support--

MR. BOSE: That shows in the Maui County budget that is to be adopted June 22. It is in our current budget, $300,000 for county participation, $600,000 for State participation, and $4,108,000 of Federal participation.

MR. O'CONNELL: Well, under the Federal Water

Pollution Control Act as it stands today the maximum Federal participation in a wastewater treatment facility is 55 percent, and I can't imagine how it could ever under any circumstances rise to 82.

MR. BOSE: Well, that is also my understanding and my theory is that we may see a situation where Wailea-Kihei, with a minimal population, has a magnificent sewer plant while Lahaina is still pumping sewage into the ocean; and I think we need to change some priorities, and I think we need some pressure from Federal and State agencies to get these priorities changed on Maui.

MR. O'CONNELL: The other comment I have, just referring to a general problem you mentioned, is that as far as Federal funding of these kinds of projects are concerned, we rely on the State to develop priorities as to which project is more significant, more needed, and so on. This is a function of the State. And generally we go along with what the State proposes, although we have to sometimes look behind into some of the circumstances such as you have pointed out here.

But I wonder if Dr. Minette is familiar with this Lahaina project and the so-called 82 percent Federal support? It sounds like an error to me.

DR. MINETTE: It certainly does to me, because I know of no project that is in for that amount of Federal support, Federal and State, yes.

MR. BOSE: I agree. I also think that it is a significant error, but unfortunately, unless something is done, the people of Maui will have to live with this error.

MR. STEIN: All right, let me speak to the general problem. We may make some errors, but if the law provides that the maximum grant we can give is 55 percent, we really don't make that kind of mistake and go on with it.

But I think you have a basic problem here and this is a problem we get in very, very many areas, and it is a rather difficult one. The question is where should the plants be built or the sewers be built in a particular State or a particular county or a particular location. The attitude we have always taken--and I think the present Federal law, in any event, points out--is that the primary judgments on that are to rest with local governments and the State.

Now, I just ask you to think about this. If you think that there is a misplaced priority as to where they are going to place a sewer or where they are going to place a sewage treatment plant and one should go in before the other, and your direction here is asking the Federal Government to get into that, whether that is an appropriate function for the Federal Government or whether you really want that, or whether that should be worked out on a State and local basis, I think our problem is that obviously we are not going to put in Federal funds for the sewer where it is not needed and it is just for real estate speculation. If that is the case that is a fact. Also the Federal Government has an obligation to move where there is pollution or potential pollution or get a reasonable degree of treatment for the waste.

But it seems to me the question of which sewer goes in first or how the State or the county is going to handle its allocated funds may be a local matter. Because if the Federal Government attempted to get into these kinds of problems throughout the country, you may have enough of big brother in a very short time. As bad as you may think it is in working these problems out on a local level, I am not sure you really mean for the Federal Government to get into this kind of problem.

MR. BOSE: I would like for the Federal Government to find out what the county is assuming that the Federal Government is going to do for the county and maybe correct some misconceptions that the government of Maui County apparently has on this. That is what I am hoping for.

MR. STEIN: Right.

MR. BOSE: I realize it is a local problem. I have tried to take it to the State, I have written letters, I have been to every single public hearing on Maui for the last 2 years bringing this point out, and I bring it out at every opportunity and this is another opportunity where I am bringing it out.

MR. STEIN: Right. Thank you very much, sir.

Any other comments or questions?

Thank you.

May we have Colonel Donald D. Gabe of the United States Army.

COLONEL DONALD D. GABE
DIRECTOR OF ENGINEERING
UNITED STATES ARMY
SCHOFIELD BARRACKS
HONOLULU, HAWAII

COLONEL GABE: Good morning.

My report will be very brief. I do not have a written report.

According to Item 8 of the September enforcement conference, the Army was to defer initiation of construction of a new secondary sewage treatment plant at Schofield Barracks until December 31, 1971, to allow time for selection of a

Col. D. D. Gabe

Waikele watershed plan as specified in paragraph 7 therein. If the plan selected requires a new Army plant, construction shall proceed immediately. Any sewerage project undertaken by the Army is to be consistent in scope and timing with the selected Waikele watershed plan and provide for payment by the Army of its pro rata share of the costs of any joint facilities.

The letter that the City and County submitted to you, Mr. Stein, on 15 December did indicate a central Oahu water plant and it did allow for us to construct the sewage treatment plant at Schofield Barracks--a new secondary sewage treatment plant. A contract was let by the Pacific Ocean Division of the Corps of Engineers on the 24th of May of this year. After a notice to proceed, the construction time will be about 14 months.

Initially we will continue to dump into Waikele stream. The determination of what will happen in the future is still under study. However, I should say that we have conducted an initial study of pipelines, several alternate routes for pipelines to carry the effluents from our plant at some future date to the Waiahole Ditch, where it could possibly be used on the Oahu Sugar Company's cane fields.

Now, we have only conducted a very preliminary type study over three different routes and we have not gone into Congress for any appropriation for this pipeline yet because I don't believe that the decision is really firm. However, we would say that the pipeline that we would put to Waiahole Ditch would be about $1.5 million, at least $1.5 million, but we have not carried it any farther than that.

I have nothing further unless you have questions.

MR. STEIN: Are there any comments or questions? Yes.

MR. O'CONNELL: If you decide to proceed with one of those alternates, in order to have it completed by the end of calendar year 1974, when would you have to go into Congress for authorization and appropriation?

COL. GABE: We would have to go in to Department of Army no later than October or November to try to get it into the 1974 program which will be presented to Congress. It cannot make the 1973 program because that is before Congress right now. So it could go, possibly, into the 1974 program. It would be an additive item to an already relatively firm Army military construction program for 1974.

MR. O'CONNELL: So you would look to make this decision by October or November of this year?

COL. GABE: Whether this decision could be reached by that time or not, I don't know. I think that may end up being part of the discussion that may take place today when we get involved with the discussions with the city-county, because we are dependent upon what the final city-county plan is for Central Oahu.

MR. O'CONNELL: Thank you.

MR. STEIN: In other words, you have the design and you are ready to go and meet any reasonable schedule dovetailing with the city council-county planning, is that essentially it?

COL. GABE: That is right. And we can't go into any design until we know exactly what is going on.

MR. STEIN: Oh, you haven't designed this yet?

COL. GABE: No, sir. We have not designed. We have taken a preliminary look, a study which looked at three alternate routes to the Waiahole Ditch. We have talked to some of the landowners about possible easements and things like that, but we have not gotten into details, no, sir.

MR. STEIN: O. K. Let's again see if we can understand.

What you have done is the preliminary work and you are ready to enter into intelligent discussions with the city and county once the plans firm up to pick an alternative is what you are saying is where the Army is now?

COL. GABE: Well, I think it depends more--the alternative as to which pipeline is probably dependent upon which would be the most economical.

MR. STEIN: Yes.

COL. GABE: This would be the best decision in that respect. But whether the pipelines should be built or not I think is a question that still has to be resolved.

MR. STEIN: That is right. But couldn't the judgment be made in zeroing in on one pipeline now if that is the consideration? If you have looked at three alternatives, isn't it possible for the Army to come up at least with a notion that if they had to build a pipeline where they would go or which one you would go with so we would be that much ahead?

Now, the question of whether you need the pipelines or not is another question, but looking at the preliminary evaluation you made, the easements, the land you have to go through, couldn't the most economical judgment come up?

COL. GABE: Oh, yes, I think that we have already made a decision as to which would be the--

MR. STEIN: O. K.

COL. GABE: --most economical route.

MR. STEIN: O. K., all right.

COL. GABE: Yes, sir.

MR. STEIN: Right. O. K. And do our technical people know which one that is, I guess, or don't you want to reveal that?

COL. GABE: Mr. Seeley has received a--

MR. SEELEY: I have received a map, a preliminary blueprint of a map, which has, I think, the routes outlined on it, but nothing in any detail as far as a cost analysis is concerned.

MR. STEIN: I think that might be very helpful to our technical people, and it may be helpful for the discussion for the city and county to have this information. In other words, when we are dealing with a complicated operation of this kind, it is always best to get all these preliminary judgments out of the way. In other words, if the Army has come to a conclusion, as I am sure you have, on the most economical route, which barring certain considerations would be the route if any route were to be taken, I think that would be helpful in moving this forward. Now, as you point out, there may or may not be the necessity for taking any one, but I do think if it is at all possible we should get the full benefit of your analysis out on the table as soon as we can.

COL. GABE: We can do that, sir.

MR. STEIN: All right, thank you very much.

COL. GABE: Yes, sir.

MR. STEIN: Any other comments or questions?

If not, thank you very much.

COL. GABE: Yes, sir.

MR. STEIN: United States Air Force.

EDWARD F. C. LAU

HEADQUARTERS PACIFIC AIR FORCES

CIVIL ENGINEERING

HONOLULU, HAWAII

MR. LAU: I am Edward F. C. Lau, Headquarters Pacific Air Forces. I have a prepared statement, one copy of which I will give to your reporter after I read it.

This is the Progress Status, the Air Force efforts to comply with the requirements of the Pearl Harbor water pollution Enforcement Conference of September 1971.

Paragraph 9 of the final Pearl Harbor Enforcement Conference recommendations, as approved by the Administrator of the Environmental Protection Agency, requires that the Air Force shall:

1) By July 1, 1973, complete
design of an interceptor sewer project
that is consistent with the selected Waikele
watershed plan so as to permit abandonment
of the existing Wheeler Air Force Base treatment

facilities.

2) By December 31, 1974, complete construction of the project.

3) Pay its pro rata share of the costs of any joint facilities.

We are pleased to report that we have included in our Fiscal Year 1974 military construction program a project to build the interceptor sewer. This interceptor sewer will include capacity for the discharge from the Navy housing units now under construction at Camp Stover. The project currently estimated to cost $280,000 is identified as AF 262a, sanitary sewer connection to Schofield Barracks, on page 12 of 24 of the Air Force Water Pollution Control Status Report, Military Construction Program, Section B, dated 31 March 1972. The Headquarters Air Force contact is Mr. Harvey L. Segal, Oxford 7-1147 or 56296, in Washington, D. C.

Discussions with Headquarters Air Force indicate that approval for the design of the project will most likely be made sometime during the second quarter of Fiscal Year 1973. This will allow for the completion of design by July 1, 1973. Contingent on congressional authorization and funding, award of the construction contract for the project in the first half of Fiscal Year 1974 will allow completion of the project by

December 31, 1974.

We are willing to pay our way in any required joint facilities. We will continue to follow up on the progress of our requirements and will keep the Administrator of EPA informed as required by paragraph 20 of the conference recommendations.

This concludes my progress report.

MR. STEIN: Well, thank you.

Are there any comments or questions?

MR. O'CONNELL: You mentioned that this would serve the facilities of Camp Stover.

MR. LAU: That is correct.

MR. O'CONNELL: Would it also serve Navy facilities at Kunia?

MR. LAU: No, sir, it will not. The Navy facilities are across the street from the Kunia Road and I believe they will--they can probably answer that better than I can, sir.

MR. O'CONNELL: I wondered if there were any plans to phase out the Navy treatment facilities at Kunia?

MR. LAU: I believe--

CAPT. TIMBERLAKE: Yes. Do you want me to answer that, Mr. Lau?

We have only recently received from the State

Department of Health a reiteration of the last December report which they had made saying this is the central Oahu sewage treatment and disposal plan. Based on the information contained therein, we have now elected to abandon our plant at Kunia and to pipe that influent over into your interceptor system and on up to Wheeler, and you will be so informed very shortly. In fact, I am surprised you have not been already.

MR. O'CONNELL: That is a rather small flow, I guess.

CAPT. TIMBERLAKE: Yes, this is not a significant project, either Stover's or Kunia's, but that is the route that we will be following, with the Air Force concurrence, which I am sure they will give us.

MR. STEIN: In other words, this will take care of both problems?

CAPT. TIMBERLAKE: Yes, sir, it will take care of the Navy's problems in the central Oahu area--by central Oahu I mean the Schofield Wheeler areas--and will, I think, be the most efficient and economical method to pursue.

MR. LAU: It appears to me, Captain Timberlake, just offhand, that you would be coming entirely from an opposite direction than our interceptor sewer.

CAPT. TIMBERLAKE: I am not that--

MR. LAU: Would it be that you are going directly to the plant or tie in just before?

CAPT. TIMBERLAKE: I said it would be your interceptor system; I guess you have corrected me; it will be to the plant. I don't know, I am not that familiar with the details. Mr. Mau over here could probably give us a better picture of it if one is needed at this time.

COL. GABE: Actually it will be coming to the Army plant. The Army Schofield Barracks plant is actually located at Wheeler Air Force Base.

MR. STEIN: O. K. We are pretty much in agreement on that.

MR. LAU: Thank you very much.

MR. STEIN: These things change as we go forward with a project, but I think the Air Force is the one that is on schedule, the schedule we set forward here, and I think we have some tie-ins here. I think it is also fair to say that if we look at the Navy and the Army, their problems may be a little more complicated than just building--

MR. LAU: This is not in my report, but it appears that the Army's construction or completion of their sewage treatment plant at Schofield will coincide with our completion of the interceptor sewer. However, should there be any delay in the Army's plant and should we be on time, I would recommend that we continue to discharge with our existing stabilization ponds because of the Army's overcapacity of the existing plant and also because our plant adequately--or let's say has fairly good treatment efficiency right now.

MR. STEIN: Right.

Mr. Louis Herschler.

LOUIS H. HERSCHLER
OAHU SUGAR COMPANY, LIMITED
WAIPAHU, HAWAII

MR. HERSCHLER: Gentlemen. My name is Louis H. Herschler. I am representing Oahu Sugar Company.

My comments will be primarily related to Item 13 of the conferees' conclusions and recommendations of the Pearl Harbor Enforcement Conference held in Honolulu September 21 to 23, 1971.

In our report to the conferees dated November 29, 1971, we described in some detail our program for elimination of irrigation tailwater discharges to Pearl Harbor and its tributaries and for minimizing soil erosion from our lands.

This program is proceeding on schedule. Since the first of the year, for example, we have enlarged one sump and constructed four new containment ponds on Waipio Peninsula. Three ponds, or sumps, on the peninsula remain to be enlarged, relocated or completed. During the balance of the year we will construct approximately seven containment ponds in our mauka fields when these fields are harvested.

We are in somewhat of a quandary as to the construction of the proposed combination stabilization pond and wild bird sanctuary in Walker Bay on Waipio Peninsula. Pending Federal legislation now being considered by a congressional conference committee proposes "zero discharge" by 1985. Interim criteria proposed are "best practicable treatment" by 1976 and "best available treatment" by 1981. We doubt that our proposed stabilization pond would meet these criteria and certainly it would not comply with the "zero discharge" requirement. We are thus reluctant to construct the proposed dam across Walker Bay at a cost of $20,000 or more with a usable life of only a few years. An alternative now being considered is the construction of pumps and a pipeline to pump the spring drainage water and irrigation tailwater to a large percolation pond in the central part of the peninsula. This would solve our problem at a somewhat higher cost but would also eliminate the wild bird sanctuary.

In December 1971 Oahu Sugar Company issued a policy statement expressing its willingness to utilize the effluents from the various sewage treatment plants discharging into Waikele Stream and its tributaries for irrigation of cane. Our acceptance was based on delivery of secondarily treated effluent to the Waiahole Ditch with provision for holding reservoirs for storage of effluent during heavy rain periods. A copy of this policy statement is appended hereto.

(The policy statement referred to follows:)

STATEMENT BY OAHU SUGAR COMPANY RELATIVE TO THE USE OF SEWAGE EFFLUENT FOR SUGAR CANE IRRIGATION - WAIAHOLE DITCH

We were first approached by engineers of the Oahu Water Quality Study Consortium last year about our possible use of sewage effluent for irrigation of cane. Our response at that time was a qualified yes subject to certain conditions. These can be summarized briefly as:

1. Sewage effluent would have to be made available to those areas of the plantation where such water could be used;

2. Adequate dilution with fresh

water would be required to avoid application of excess nitrogen during the later stages of the cane growth (most of the second year of the crop);

3. The company could not accept responsibility for the sewage effluent during non-irrigation periods, particularly the rainy winter periods.

The company is the major user of water on Oahu, about 225 mgd, two-thirds of which is pumped from the basal groundwater at multiple locations. We have an adequate total supply of water for our needs although water distribution to some areas of cane is deficient at times. This has been brought about by loss of cane lands to residential subdivisions, the H-1 Highway, etc., and the replacement in part by the acquisition of new cane lands. Rather than develop new sources of water, the company is installing new pumps and pipelines to improve its distribution capabilities. It is expectable that in future years Oahu Sugar Company's cane acreage will decrease under pressures of urban encroachment with an accompanying decrease in water requirements.

There is general recognition that the Pearl Harbor basal water supply is being drawn upon at or near its safe yield potential. Thus, Oahu Sugar Company is favorably inclined towards any efforts to import water or to recycle fresh water (which it now does from the caprock areas of Ewa) or to utilize sewage effluents for irrigation. It has for a number of years used limited quantities of sewage effluents for sugar cane irrigation, including the effluent from Schofield. While the quantity of the sewage effluent proposed for irrigation is not significant to the plantation's overall present or future needs, it could be put to beneficial use if discharged to the Waiahole Ditch. But perhaps most important is today's recognition that water recycling, where feasible, should be carried out. Our company has long endorsed this principal.

held in September of this year unanimously reached various conclusions and recommendations, one of which involves the Waikele Stream, viz:

> '7. The City and County of Honolulu shall take the necessary action to exclude from the harbor the sewage presently reaching the harbor from the watershed of the Waikele Stream, in accordance with the following schedule:
>
> a. By December 31, 1971--A sewage disposal plan providing for irrigation or export from the watershed is to be selected. . . . .'

There has been some opinion expressed that the secondary sewage effluent discharged by the Schofield treatment plant during non-irrigation periods of the rainy season could be tolerated in Pearl Harbor because of the greater dilution provided by the higher winter stream flows. Mr. Murray Stein, Chariman of the Enforcement Conference, stated, however, that such discharge would not be acceptable.

Our company's use of the sewage effluents from the several sewage treatment plants discharging into the Waikele Stream watershed is patently a key factor in the selection of the sewage plan to be determined by December 31, 1971. Subsequent to the Enforcement Conference, therefore, the Company's staff discussed this problem at considerable length. We were concerned about (1) the high cost to the taxpayers for sewerlines to transport sewage to the proposed Honouliuli treatment plant (e.g., the estimated cost for the Schofield sewerline alone is $7 million) and (2) the waste of a natural resource by failure to recycle the sewage effluent for irrigation.

We concluded that we could meet the two concerns stated above as well as the Enforcement Conference conclusions and recommendations under the following conditions:

1. That Oahu Sugar Company will accept the sewage effluents

(secondary treatment) of the several sewage dischargers into the Waikele Stream drainage system if delivered to our Waiahole Ditch up to a maximum of 10 mgd (possibly more if further research shows that a lesser dilution ratio will not adversely affect yields of sugar);

2. That Oahu Sugar Company will spread said sewage effluents and the Waiahole Ditch water on its fields on a 7-day a week basis and during non-irrigation periods so as to avoid ultimate discharge into Pearl Harbor.

3. That the dischargers will provide temporary storage above our Waiahole Ditch with gravity discharge to the Ditch to store sewage effluents for those several days each year when heavy rainfall occurs to the extent that runoff may occur from our fields (estimated at three to four days storage requirements);

4. That Oahu Sugar Company's

commitment to accept this sewage effluent will continue as long as the company continues its sugar cane cultivation served by the Waiahole Ditch (estimated, but not guaranteed, to be for the next twenty-three years.)

Our analysis indicates that over the long run the value of the sewage effluents for irrigation use will be more or less offset by the costs of spreading the Waiahole water sewage effluents when not needed for irrigation. Initially, we expect our costs to exceed the benefits but as the sewage effluents increase with increased expansion of Mililani Town and the Waipio developments the pendulum should swing in the other direction. Accordingly, we do not consider this proposal as a bonanza to our company but rather as a break-even proposition from an economic standpoint. We think that the final decision on this proposal must be based on the premise of not expending unnecessary public funds and the desirability of recycling natural resources as weighed against the possible hazard to our ground-water resources.

That concludes my statement.

MR. STEIN: Thank you.

Are there any comments or questions?

Mr. Herschler, I appreciate your problem, but I think this is a problem that is going to be faced by a lot of the industries. According to your statement, you are on the schedule of the conference except you have a problem on utilizing your stabilization pond and a dam, and so forth and so on, in the light of new Federal legislation and requirements you are going to have with permits.

MR. HERSCHLER: Yes, sir. We are not necessarily not on schedule, it is just a matter of whether we should change our plans.

MR. STEIN: Yes. Well, I think this is a question that every industry is going to have to face, and you can make your judgment on this as well as I can. I think, without prejudging any legislation that is coming out, "best practicable treatment" is in both the House and the Senate bill, and this will be the kind of thing, for example, that we are going to have in effect in the years between 1976 and 1981.

MR. HERSCHLER: Yes, sir.

MR. STEIN: "High degree of treatment," "best available treatment" will be presumably between 1981 and 1986. And I guess the House and the Senate may have a little difference at the present time, although the conference committee is working on what they are going to do about "zero discharge," if any. But we are working out guidelines for effluent discharges for each industry, and we are working on the cane sugar industry right now and we are developing proposals.

I say your judgment on this is certainly as good as ours or mine, certainly. But I think the decision that every company has to make for itself is that if you are going to be faced with the "best available" or a "zero discharge" in the future, whether you want to go to very expensive kinds of treatment now which may not be compatible with that zero discharge, or whether you want to try to get pretty close to the zero discharge right now. I think this is the question that is going to be faced by practically every sizable industry in the United States which has a direct discharge to a watercourse. It is one the businessmen are going to have to consider.

I do think that the sooner you make the decision on this the sooner we are going to get this resolved, because within possibly a few months from now we may be faced with issuing a permit, and these permit conditions may be somewhat stricter than you have considered here. It might be wise from the not too long term economic benefit of the company to think of a very, very high degree of treatment, because, as I see it, it is just coming.

I am saying that if you don't go to this high degree of treatment right away, and yours is a typical example, if you put the $20 million out--or $20,000--I have been dealing with the steel industry last week; pardon me--if you put $20,000 into a dam, later you may have to abandon that dam and go to a higher degree of treatment. You must make the judgment whether it wouldn't be more economical for your company to go to that advanced degree of treatment in the first place without spending money on an interim system which may have to be abandoned in 5 years.

MR. HERSCHLER: That is what we are concerned about.

MR. STEIN: I know. I know that you are concerned, but this doesn't inhibit you. You know, there is nothing in the law that says that you can't do better than we asked you at the last conference. If you see this coming up and you can do better, no one is going to stop you. Also it may be more economical, as you point out here.

MR. HERSCHLER: Yes. Yes, that is right.

MR. STEIN: It may be more economical for the company to set their sights pretty high on this, because I think you have outlined the problem very, very clearly.

MR. HERSCHLER: I think we are meeting on the direction we are going, yes, sir.

MR. STEIN: Right.

MR. O'CONNELL: Mr. Stein.

MR. STEIN: Yes.

MR. O'CONNELL: Mr. Herschler, maybe you could refresh my memory. Your mill wastewater is applied as irrigation water at the present time?

MR. HERSCHLER: Yes.

MR. O'CONNELL: With what frequency does that have to be discharged because of excess rainfall or something, or does it ever have to be discharged?

MR. HERSCHLER: Well, the Walker Bay project, this drainage water, springs are running in and out all the time and we get a certain amount of tailwater that gets in and mixes with that.

MR. O'CONNELL: And the tailwater is made up in part of mill wastewater?

MR. HERSCHLER: Yes.

MR. O'CONNELL: I see. So when you are talking about tailwater, it includes the mill wastewater?

MR. HERSCHLER: It wouldn't necessarily be every day. In that particular one a fair amount of flow from several fields can discharge at that particular--

MR. O'CONNELL: Have you any target date you are shooting for to make these kinds of decisions about whether or not to proceed with Walker Bay or other things?

MR. HERSCHLER: Well, we would anticipate--right now our planning is that we would either put in these pumps or do the dam across Walker Bay, have it completed by the end of 1973. That is our goal right now. And our ponds, our irrigation tailwater ponds, at the end of this year.

MR. STEIN: Well, thank you very much, sir.

Dole Company.

JOHN W. HUIDIS

DOLE CORPORATION

WAHIAWA, HAWAII

MR. HUIDIS: My name is John Huidis. I am standing in for Dr. Dave Golding, who had jury duty this morning.

My statement to this Pearl Harbor technical conference is:

In compliance with recommendation No. 14 of the

Pearl Harbor Enforcement Conference, Dole Company filed its conservation plan with the State-Federal Pearl Harbor enforcement authorities as required in December 1971. This plan was developed in cooperation with the West Oahu Soil and Water Conservation District and the Soil Conservation Service.

Our schedule to implement the existing Dole conservation practices has been closely adhered to and we have sought and received the advice of the Soil Conservation Service in so doing.

An interim report giving the specifics of these implementations will be forwarded to the State-Federal Pearl Harbor enforcement authorities by June 30, 1972, thus adhering to the schedule set forth by the conferees.

Dole Company, Lynn Pendry, Plantation Manager.

MR. STEIN: Are there any comments or questions on this?

MR. O'CONNELL: No, I don't have any.

MR. STEIN: If not--

MR. HUIDIS: Pardon me, did you ask me a question?

MR. STEIN: No, no, I asked the other conferees if they had a question.

If not, thank you very much, sir.

Again as far as this indicates, the Dole Company is on schedule, is that correct?

MR. O'CONNELL: It would seem to be so.

MR. STEIN: Right.

MR. O'CONNELL: I think that is true.

MR. STEIN: All right, thank you.

Del Monte Corporation.

I would like to call everyone's attention to the fact that we are having a technical session and once we get through the exhilaration and euphoria of setting up the program, these technical sessions tend to be nuts and bolts sessions, but they are very important because here we discover whether we are going to meet the deadlines or not.

RICHARD D. KRAUSE
DEL MONTE CORPORATION
HONOLULU, HAWAII

MR. KRAUSE: Gentlemen, I am Richard Krause, representing Del Monte Corporation.

Del Monte Corporation's Oahu Plantation is subject to the requirements of paragraph 14 of the Pearl Harbor Enforcement Conference held September 21 to 23, 1971. Paragraph 14 states:

R. D. Krause

> Major pineapple companies shall, by December 31, 1971, submit to EPA and the State Department of Health an acceptable program including a time schedule of actions leading toward the control of soil erosion from their lands to the maximum feasible extent. This program shall be in full operation by December 31, 1974.

Del Monte's "Oahu Plantation Soil Conservation Program" was prepared and submitted by the December 31, 1971, deadline. Help in preparation of the report was obtained from the U. S. Soil Conservation Service through the West Oahu Soil and Water Conservation District. The report covered the Oahu Plantation's long history of soil conservation practices and includes a time schedule for the installation of a few additional improvements to be completed by December 31, 1974. As of this date we have received no comments from either the EPA or the State Department of Health on our Oahu Plantation Soil Conservation Program.

The additional improvements to the Soil Conservation Program have already been started by the plantation. In fact, they are ahead of the improvement schedule outlined in the submitted program and foresee no problems at this time in meeting the completion deadline of December 31, 1974.

MR. STEIN: Thank you.

Are there any comments or questions?

If not, thank you very much.

I think both of these reports from Dole and Del Monte are very encouraging. As a matter of fact, so far I think the batting average, certainly if you compare with other enforcement conferences, is very high indeed. There may be a few dates involving the Federal installations of the Navy and the Army which may be a little behind, but these are largely due to the complicated action we have in going through the Congress, and that is true of all Federal Agencies, and the program. But every place we are either on schedule or the agencies and the industries are proceeding with the program and have not deviated from the details of proceeding with the achievement of the program.

At this point we would like to call on Mr. Tony Hodges.

TONY HODGES

LIFE OF THE LAND

HONOLULU, HAWAII

MR. HODGES: My name is Tony Hodges and I am the Executive Director of Life of the Land. I have just a few comments to make pertaining to Pearl Harbor, Mr. Stein.

As the Environmental Protection Agency and the State and county look at the quality of the waters of Pearl Harbor and as you are trying to, you know, stop present discharges or to reduce them, I think that we are missing a very--how do I say?--potentially a very important negative effect upon that. I mean the proposed reef runway.

Chuck, is it possible, Chuck Seeley, for you to show them where the reef runway will run so that Mr. Stein might see?

MR. SEELEY: The reef runway is going to run roughly out in this direction here (indicating). (See map p.56a)

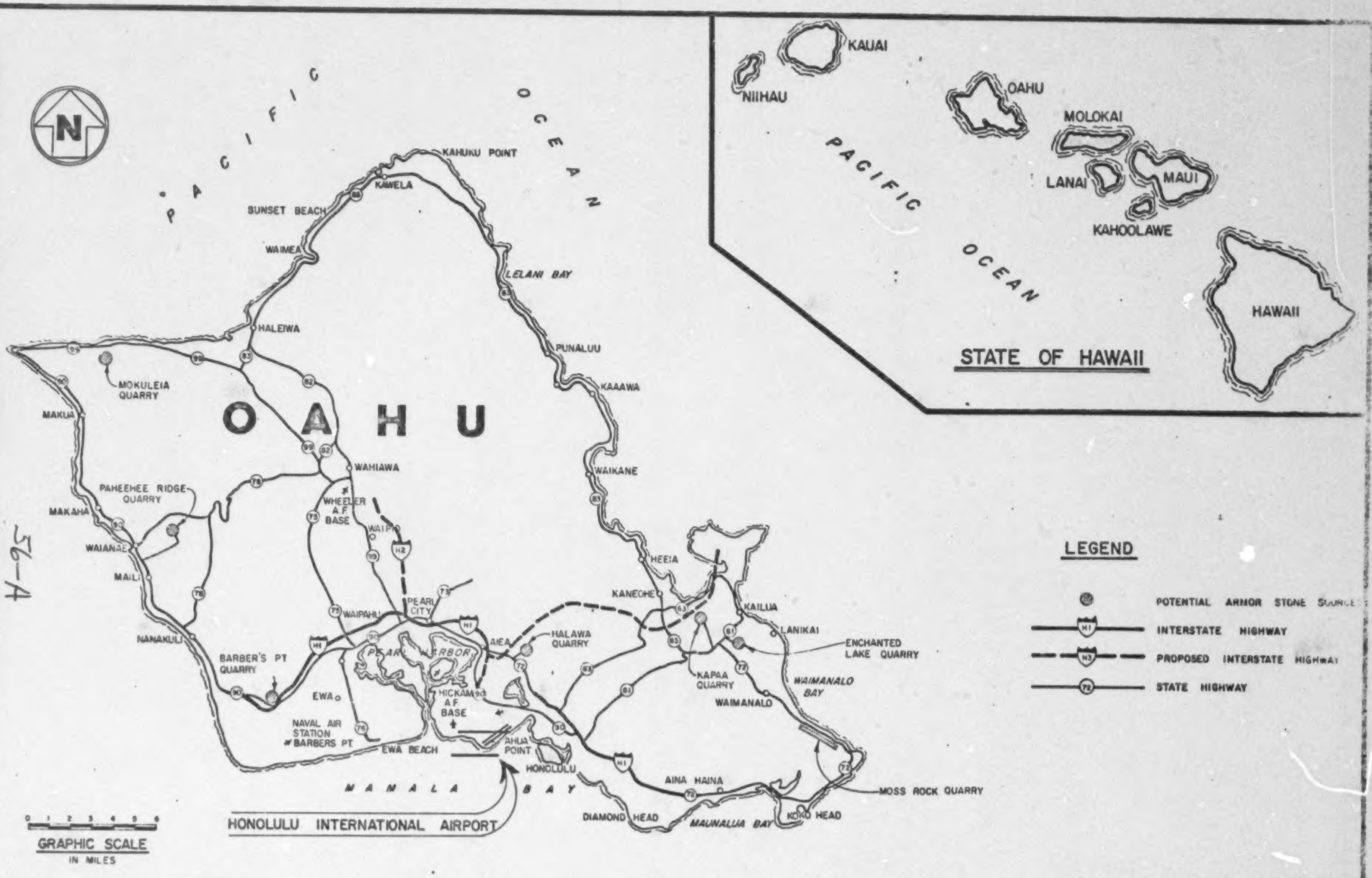
MR. HODGES: It runs roughly parallel to the bottom of the--you know what I mean?

MR. STEIN: What is it going to be, commercial?

MR. SEELEY: Yes.

MR. HODGES: Yes. O. K.? You might show them where the Sand Island sewage treatment plant is going to be.

MR. SEELEY: The Sand Island plant is going to be


PACIFIC OCEAN
OAHU
KAHUKU POINT
KAWELA
SUNSET BEACH
WAIMEA
LELANI BAY
HALEIWA
PUNALUU
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MOKULEIA QUARRY
MAKUA
WAHIAWA
WAIKANE
PAHEEHEE RIDGE QUARRY
WHEELER A.F. BASE
WAIPIO
MAKAHA
WAIANAE
MAILI
HEEIA
KANEOHE
KAILUA
LANIKAI
PEARL CITY
WAIPAHU
NANAKULI
BARBER'S PT. QUARRY
PEARL HARBOR
AIEA
HALAWA QUARRY
ENCHANTED LAKE QUARRY
KAPAA QUARRY
WAIMANALO
WAIMANALO BAY
EWA
HICKAM A.F. BASE
NAVAL AIR STATION BARBERS PT.
EWA BEACH
AHUA POINT
HONOLULU
MAMALA BAY
AINA HAINA
MOSS ROCK QUARRY
DIAMOND HEAD
MAUNALUA BAY
KOKO HEAD
HONOLULU INTERNATIONAL AIRPORT
H1
H2
H3
GRAPHIC SCALE IN MILES
0 1 2 3 4 5 6
NIIHAU
KAUAI
OAHU
MOLOKAI
LANAI
MAUI
KAHOOLAWE
HAWAII
PACIFIC OCEAN
STATE OF HAWAII
LEGEND
POTENTIAL ARMOR STONE SOURCE
INTERSTATE HIGHWAY
PROPOSED INTERSTATE HIGHWAY
STATE HIGHWAY

56-A

#1

ATTACHMENT II

out here (indicating).

MR. STEIN: Honolulu and Chicago, both of you want to use your water to run the airplanes. Great!

O. K.

MR. HODGES: The United States Navy, and I am not sure whether it is one of the gentlemen here, in their comments on the draft Environmental Impact Statement submitted under EPA on the reef runway expressed deep concern with the effect that the reef runway would have on circulation and the water quality in Pearl Harbor. To the best of our knowledge, the Navy has never received an answer from the State, from the Federal Aviation Administration, or from the Federal Department of Transportation with regard to their comments on that draft Impact Statement.

It is acknowledged that the reef runway, which will change in some cases the shoreline for more than a half a mile into the sea, will have a direct effect on currents, not just in Pearl Harbor but also in the Keehi Lagoon.

The Environmental Protection Agency in its comments on the draft Impact Statement, to the best of our knowledge, did not address itself to this problem. Here we are trying to clean up Pearl Harbor, and yet there is a possibility that the effect on the currents of the reef runway structure will be such as to perhaps diminish the present circulation in Pearl Harbor.

Another point to be made, too, Mr. Stein, is that the--I can't give you the precise number of cubic yards of fill material that is going to be dredged from that area and also deposited along that area that Chuck Seeley indicated; I think it is on the order of 600 million cubic yards. That is an incredible amount of fill. And as you know, if you have seen the effect that we had when they were working on the Fort DeRussy beach area, you men who were here the last time, it does have definitely a--it certainly increases the opaqueness of the water, as you say.

MR. STEIN: Oh, that is going to roil up the water for a while, I don't think there is any doubt about that.

MR. HODGES: O. K. Its effect by changing currents, the runway's effect on the proposed Sand Island sewage treatment plant outfall has never been looked at by the Environmental Protection Agency, to the best of my knowledge, or by the State. In the designing of the reef runway they did take a very brief look at the effect that the sewage from the outfall, the present outfall, would have on the reef runway and the lagoon area, but the reverse has never been studied, that is the effect that the reef runway through its changing of currents will have on the present plans for the sewage outfall from Sand Island.

Another quick point to be made, too, is that the takeoff path from the reef runway, if it is built, will be directly over the proposed site of the Sand Island sewage treatment plant, which could with one accident, you know, leave you without a sewage treatment plant.

MR. STEIN: Years ago when I lived in Alexandria they used to go directly over my house from National Airport.

MR. HODGES: Right.

I think that,again, as you are looking at, you know, each of the so-called polluters of Pearl Harbor you should also perhaps anticipate a new one and that will be the reef runway and that certainly before the thing is built I think the Environmental Protection Agency should satisfy itself and also be satisfied that the Navy is convinced that the effects on currents will not make the problem worse than it now is. This has never been looked at and this is a very major--it is two miles long, the structure.

I might also mention it is extremely close to the Pearl Harbor channel itself, so close, in fact, that aircraft approaching the reef runway from the west, a ship leaving Pearl Harbor will penetrate the glide slope so that planes will not be able to land when ships are leaving or entering Pearl Harbor and the same thing with the Kalihi Channel into Honolulu Harbor.

T. Hodges

I might mention, too, that the State Health Department registered, I would say, rather serious concern about the reef runway and its effect on the Keehi Lagoon area, and apparently through Dr. Marland's office, who is in EPA, an employee, I understand, eventually this objection was withdrawn for some reason.

Another point, and I think the Hawaiian Electric will address themselves to this, you ask are they going to in 1974 comply with the thermal water quality standards, and I might mention that Dr. Quisenberry recently denied Hawaiian Electric a zone of mixing, that is a variance from the law essentially, for the Kahe plant but not for the Waiau plant, and for some reason, which Hawaiian Electric can explain, it has been delayed until after November, which leaves Hawaiian Electric essentially doing nothing. However, since the zone of mixing was not granted for the Kahe plant, they have applied for a permit and I guess will work towards compliance with the State water quality standards. I think this is important because you are laying on the Navy about their thermal discharges and I think, you know, you should be perhaps equally rigorous with Hawaiian Electric, especially if the Navy's answer to getting rid of its thermal discharge is to close the plants and to hook up to commercial power, which would be

Hawaiian Electric Company.

One other point, at the last enforcement conference, Mr. Stein, I think that Richard Marland, who is the Director of the Office of Environmental Quality Control, and is also an Environmental Protection Agency employee, which we objected to, presented the Governor's position. I think--correct me if I am wrong--that position was basically that the State was making the grand gesture, since I know that you yourself were somewhat dumbfounded by it or surprised or certainly pleased, that the State would not only come up with its share of the funds for the whole State but would advance the Federal share. And I think on that basis too the EPA made a larger commitment than would normally be allowed to the State of Hawaii contingent on them doing that or with the understanding that the State would do what it said. I would hope that Mr. Marland will come in here today or tomorrow and explain to you the State's present position.

I will tell you essentially what I have been told it now is as of about a week and a half ago, and that is that the State has told the City-County that it will not come up with the Federal share and the State has also indicated to the City-County that in fact the State may not be able to come up with all of its share and that the city may have to do some advancing of that. I can't confirm this, but I think that that would be a fair question certainly to Mayor Fasi if he is aware of it, and I am sure that he is. Also I note the absence here of Dr. Marland, and I suggest that this conference really can't be complete without him since a great deal of the performance that has been promised by the State of Hawaii to the Federal Government is based on that promise made to you several months ago that the State would come up with its share and also advance the Federal share.

In this respect, I would like to touch on one thing that Mr. Bose touched on, and again this pertains to the problems of Pearl Harbor. I think we all realize that the job is very big and the budget, Federal, State and local, is very small, it is hard to come by, and as such we should do our best to make sure that every dollar counts. I think that is something that Mr. Bose was trying to bring out before this conference, that it seems a little strange for the Federal Government to be providing money to, in this case, the county of Maui when the county essentially apparently has an excess of funds, somewhere in the vicinity of $6 million, which it is putting into a sewage treatment plant which will serve presently 1,500 people plus zero people in two communities. And I certainly appreciated the position which you stated, sir, that EPA, even though you try to follow the local lead, certainly would not fund a project that is built basically to service a speculative need when there are other places with greater need, such as Pearl Harbor.

Two more points, one quickly. I think that the Environmental Protection Agency needs more staff and personnel here. And Chuck Seeley doesn't have to smile, but I think he will agree with me that the job here is enormous and it is extremely hard to do it from San Francisco. I would hope that this conference would recommend that just as the efforts of the State and the county and the various private companies plus the Air Force and the Navy, that they be stepped up, that more personnel be put on the job, I think the Environmental Protection Agency should also follow through and give Chuck Seeley the type of support that he needs to carry this on.

I will summarize it and quit.

I think that you must look at the reef runway and you must look at its effect on the Pearl Harbor area and the Keehi Lagoon area and also on its effect on the Sand Island sewage treatment plant outfall and what changes that might make in design and the effectiveness of the design. I think you should get hold of the United States Navy comments on the draft Impact Statement and review, contact the person in the Navy who made them and ask them why, whether or not they have been satisfied. I would suggest too that you take the opportunity to expand the role of the Environmental Protection Agency in making comments on this proposed reef runway.

I might mention too that in that plan, in the Honolulu International Airport master plan, that it is proposed that in 1985, perhaps before, that the lagoon itself, which I think you know where it is, right--can you show them, Chuck?

MR. STEIN: Yes.

MR. SEELEY: Keehi Lagoon? Here (indicating).

MR. HODGES: The State proposes to fill that, fill it, for cargo and maintenance. We are told it is a pie in the sky, but the Impact Statement simply doesn't deal with it just as it does not deal with Pearl Harbor or the effect on Sand Island.

I think that what Mr. Bose mentioned about the funds, that the Environmental Protection Agency must become extremely concerned and extremely careful about the application of its funds in the State. When 1,500 people can get $1.5 million of State money, you know, when it is difficult to get State money for the Sand Island sewage treatment plant, I think that EPA has got to look into that. Basically what is going on is the shell game, you know, saying where is the pea, and the county, in my estimation, is playing that game very well. It is using your funds to take care of something that you wouldn't approve--the reason it is not using Federal funds for the Kihei plant is because you wouldn't approve it, I don't think, because there is not the need for 610 families, but they do use the presence of your funds in large amounts in other projects to roll other county funds into that. In other words, they are not making their maximum effort.

I think at this one point this should be made clear to the counties and to the State--that the law provides that the Federal Government may, you know, if able, provide up to 55 percent funds. But the requirements of the law are the same, whether the Federal Government provides any money or not. They still have to give them that. And I think we are continually taking that 55 percent for granted, and I think that the water pollution is our problem and certainly the Federal Government we ask to participate as much as possible, but I don't think that this is always 55; I think it is up to 55, depending, and also according to the availability of funds. I know that they are very limited.

And please ask Mayor Fasi when he comes in whether or not Dr. Marland did tell him or someone from Dr. Marland's office did tell him that the State in fact does not intend to follow through on the promise they made to you at the last conference or the last portion of this conference. I think that is true. And I think that as important as we will say the good faith that is being shown by Del Monte and Dole, which I think, as you said, is encouraging, that you also must work to find out whether or not the State itself is acting in good faith.

Thank you.

MR. STEIN: Thank you. I think we have got several points and let me just go over them. One perhaps--of course the conferees can do this--Hawaiian Electric will be here, scheduled to be here tomorrow, and I think we should let them make their presentation--

MR. HODGES: Yes.

MR. STEIN: --before we go into doing it when they are not here to answer.

MR. HODGES: No, they are here.

MR. STEIN: They may be here, but they are scheduled to go on tomorrow.

MR. HODGES: Fine.

MR. STEIN: Now, the next point on the State funding that you alluded to, I think we all recognize that we set up a time schedule based on representations made at the last conference by whomever they were made and we are going to--at least I am going to do my best, and I am sure our Agency is, to see that the time schedule is met.

I think you made another point and this is a significant one, i.e., when we set a requirement at an enforcement conference, that requirement is to be met whether you have funding or not. Sometimes a municipality or someone will say they didn't get a Federal grant, therefore they couldn't meet it. But if the State decides to give, or another city gets the money from the State to do something, you can draw your own judgment on the equities of that kind of argument when we ask when they are going to meet the date. And I think that this is something that we accepted in the presentations here and was a basis of our setting up this time schedule.

Now, the other point I think we should get some discussion on from the conferees is the question of the reef runway, because I think the points raised by Mr. Hodges merit consideration. This is not just a problem here. I guess you have got a lot of water out here, but every place has to figure out how much water they are going to fill in. You know, we filled in around Washington, D. C. Hains Point is all a fill, and then we have got several other pieces of fill. The last proposal we had was when we asked Blue Plains to really up its treatment facilities or put in a really advanced type waste treatment

T. Hodges

facility. The District proposal was that they wanted another 100 acres from us to fill in to build a plant, and we had to tell them we had filled in enough of the Potomac. They are just going to have to find another way. The answer can't be just filling in some of this land.

I know it is an attractive proposition, because around Chicago they have had these fill and I think you will see the water plant on it and perhaps the university on one. I have always watched with interest. I draw no conclusion about this. There are some steel companies on the waterfront of Lake Michigan; they give them a dike and let them fill in. And then these people fill that in and they have got some land on the lake which is probably the most valuable land in the country you couldn't buy for love nor money--a shore front property which is just made. Also in Chicago there is a proposal, you know, to build a new airport in the lake.

There are always these pressures to use the waters around you for these purposes. I think maybe in Hawaii you have been lucky and this has come a little later than in some other places, but this is the thing we have to look at.

Now, I wonder if we have any comment about the reef or changing the currents or anything of that kind where we can reasonably put this to rest?

MR. O'CONNELL: I would agree with Mr. Hodges, it is unfortunate this didn't come up at the conference back in September.

MR. HODGES: Yes.

MR. O'CONNELL: We might have given it a lot more consideration at the proper time.

But as I understand it, the draft Impact Statement did not mention it. The Navy commented on the subject to FAA, I guess--

MR. HODGES: Yes.

MR. O'CONNELL: --and the final Impact Statement has not been--

MR. HODGES: No, the final Impact Statement has been written and has gone through CEQ*

MR. O'CONNELL: Oh, it has?

MR. HODGES: Yes.

MR. O'CONNELL: And has remained there for the necessary 30 days?

MR. HODGES: Yes.

MR. O'CONNELL: So as far as the Impact Statement procedure is concerned, it has been terminated?

MR. HODGES: Yes, except it is my understanding that under--it is not any type of law, really, that when there is new information that anything can always be reopened, and what I am asking is that certainly the Environmental Protection Agency is the one, I think, probably in conjunction with the Navy, too, the Navy has a vast investment there, probably a larger investment because of their need to clean up now. It is kind of like, you know, you are looking at the very obvious things. Here comes another thing. Even with the reduced inputs from each of these polluters, you may end up with a worse thing because of the reef circulation. And certainly the effect of that reef runway on the Sand Island sewage treatment outfall should be looked into by the Environmental Protection Agency.

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* Council on Environmental Quality.

MR. STEIN: Can we put it this way? I think you know that the Impact Statements are already in and we asked Mr. O'Connell to look into the situation to see, 1) if we can reopen this with new matter and if the situation warrants it and, 2) whether there will be any effect of the runway in the circulation and whether that should be considered with the Sand Island outfall. I think this probably becomes increasingly important depending upon the degree of treatment you are going to give that waste at Sand Island. And I guess I am waiting-- maybe we will hear that, although that is not part of the conference, the Sand Island installation.

And I wonder--

MR. HODGES: That should be a concern to you, sir, the fact that it not be built--in this case the sewage treatment plant is planned for a position or a location where it will be directly in line for an aircraft crashing either on approaching or landing.

MR. STEIN: Let me say, you know, the reason Sand Island isn't in the conference is we don't have jurisdiction.

MR. HODGES: The shellfish.

MR. STEIN: We have the shellfish, that is right.

MR. HODGES: Right.

MR. STEIN: And we have to use shellfish or interstate effects, and if we don't find shellfish in Hawaii it is very hard to find an interstate effect.

MR. HODGES: Mr. Stein, I think that as far as the effect on shellfish, that if in fact this changes the pollutant loads already in Pearl Harbor either through reduced treatment or through the input of dredged material, the effect on shellfish, you know, is a foregone conclusion. And when you think about the dredging for the reef runway, basically the EPA to this point has dropped the ball as far as actually commenting fully on the reef runway,and I would hope that you would go back and attempt to pick it up.

MR. STEIN: Yes.

MR. O'CONNELL: The point you raise--

MR. HODGES: Yes.

MR. O'CONNELL: --I did not review the Impact Statement, this was done in another part of our office, and I don't know the extent to which they considered the problem the Navy comments on and perhaps decided it wasn't a serious problem or the extent to which they did not really consider it. I will have to look into it when I get back to the office and see how much consideration was given to it and then decide how to proceed from there.

MR. STEIN: When can we report back to the State and the other people here so that we will know what we are doing? Can we give them an answer or at least an indication of how we see the problem and what we are going to do in 2 weeks?

MR. O'CONNELL: I think so.

MR. STEIN: All right. Why don't we do that? We will have Mr. O'Connell go back to the office and check into the reef runway problem and the aspects of this as to its effect on the circulation of Pearl Harbor, its effect on the Sand Island plant, and determine the status of these environmental Impact Statements. We will give you and the State a report. And I think we should send copies to the military installations too, so we are all advised--

MR. HODGES: All right.

MR. STEIN: --on whether--

MR. HODGES: That is all right.

MR. STEIN: --we can--

MR. HODGES: That is on water pollution. That is on water pollution at Pearl Harbor, and I will take one minute and stop. I suggest that when you do ask those questions too you ask about noise, and that is the reason for the reef runway being built. Actually it is being built to increase capacity, but Dr. Matsuda, who is the head of the Department of Transportation of the State of Hawaii, admitted to us 2 weeks ago that the noise may be increased. Also the Federal Aviation Administration has apparently told the city that it should make no further plans for a park on Sand Island because of the noise and that this will adversely affect the hearing of anybody who is out there.

So I think you should look also into the noise aspects, also into the proposed filling of the lagoon which is part of the master plan for that. And I would hope, you know, that you could--sometimes those things slip by and you can only get so many Impact Statements a month, but it is certainly related directly to Pearl Harbor.

MR. STEIN: Are there any other comments or questions?

If not, thank you very much, Mr. Hodges--

MR. HODGES: Yes, sir.

MR. STEIN: --for some very interesting points.

MR. HODGES: Would you ask, too, the representative of the Health Department to say why they withdrew their objections to the reef runway?

MR. STEIN: Well, they have heard your question. If they want to respond they can.

Do you want that to be on the record?

Dr. Minette said he has no idea.

Are there any other comments or questions? If not, thank you.

Now, we do have a little time before lunch. Does anyone who is not scheduled this afternoon or tomorrow want to avail himself of the opportunity to speak today? Because our schedule calls for a recess and reconvening at 1:30,and I think we are going to adhere to the schedule.

Possibly a good indication of why we finished ahead of time, and that isn't usual, is that most people seem to be on schedule and we are making reasonable progress.

If there is no one who wants to speak now, we will stand recessed until 1:30.

(NOON RECESS)

AFTERNOON SESSION

MONDAY, JUNE 5, 1972

1:30 o'clock

MR. STEIN: Let's reconvene.

Mayor Fasi.

THE HONORABLE FRANK F. FASI
MAYOR, CITY AND COUNTY OF
HONOLULU, HAWAII

MAYOR FASI: Chairman Stein, Mr. O'Connell, Dr. Minette. I am here to give you a progress report on the activities of the City and County of Honolulu since the Pearl Harbor Enforcement Conference of September 1971.

My testimony covers the following paragraphs of the conferees' report of September 23, 1971:

Paragraphs 4 and 5 - The Honouliuli Sewerage System;

Paragraph 10 - Waipahu Refuse Disposal Site;

Paragraph 12 - Erosion Controls;

Paragraph 19 - Waipio Oxidation Ponds;

Paragraph 7 - The Central Oahu Sewer System will be presented by Mr. Edward Y. Hirata, the City's Director and Chief Engineer, who served as Chairman of the Pearl Harbor Task Force Committee for the Central Oahu System.

With respect to Paragraph 4, which relates to the major components of the Honouliuli system, we have directed our consultant to review the recommendations of the "Water Quality Program for Oahu," in the light of more detailed information to be obtained from ocean, ground recharge, and irrigation studies.

The final form of the Honouliuli system, relative to degree of treatment, disinfection, and ocean outfall may differ from that reflected in Paragraph 4, based on more precise information developed by our consultants.

As for Paragraph 5 - Honouliuli Sewer System, we proceeded in October 1971 to secure the necessary design funds for the project.

In late January, Governor Burns released some $1.5 million, which represented the State and Federal share of the design project.

We then proceeded to interview consultants and to prepare the scope of the design work.

At the present time, I'm happy to report that we have engaged a consulting engineering firm to provide the necessary engineering services and supplementary studies to begin the design of the Honouliuli sewerage system. The scope of the design work is being reviewed by the consultant and fee negotiations will begin shortly.

The preliminary engineering design of the Honouliuli and Ewa interceptor sewers is being performed by the Public Works Department. In addition, four potential sites for the Ewa Sewage Pump Station, which will serve Ewa Beach and the Iroquois Point Navy Housing areas, have been selected. An amendment to the City and County General Plan and Detailed Land Use Map is required by law before the city can proceed with the acquisition of the selected site. The selection of the site and the subsequent GP and DLUM changes is expected to be completed by March 1973, provided there are no unforeseen delays.

With respect to the sewage treatment plant site, we entered into discussion with the Navy in early October 1971 to effect the transfer of some 48 acres of Navy lands in the Barber's Point Naval Air Station area.

After a series of meetings, agreement was reached in April 1972 between the city and the Navy on the cost of relocating existing Navy facilities.

At the present time, the Facilities Relocation Agreement is being finalized. We submitted our comments to the Navy's draft of the agreement in May 1972.

The official transfer of title is expected to take place in June 1973 after all the necessary actions are taken by the Federal Government in declaring these lands surplus. You expected us to get this done in 3 months. Instead, it will take us 21 months.

In the meantime, we have obtained a "right of entry" from the Navy to perform surveying and soils engineering work.

We have reviewed the timetable recommended by the conferees. We find that the schedule is far too optimistic, based on our experience with the Sand Island Sewage Treatment project and our experience to date in acquiring the Honouliuli site.

The conferees' schedule does not incorporate the time required for additional planning to supplement the study contained in the Water Quality Program with Special Emphasis on Waste Disposal. These supplemental studies include additional oceanographic data collection, data on recharging of the effluent by ground injection, and finalizing the study on reclamation of the effluent for cane irrigation.

In addition, the schedule does not allow time for processing the following approvals:

1) The Corps of Engineers Construction Permit for Navigable Waters;

2) State Conservation District Use Permit, State Shoreline Setback Permit;

3) Federal and State review of the Environmental Impact Statement;

4) City, State and Environmental Protection Agency construction plan review; and

5) State zone-of-mixing approval.

The Corps of Engineers has informed us that a minimum of eight weeks is optimistic for permit approval, provided there is no controversy or adverse environmental effects. If there are objections to the project, the permit approval process could be prolonged for a period from 6 months to a year.

The State Department of Land and Natural Resources has advised us to allow 6 months to process the Conservation District Use Application.

The Office of Environmental Quality Control has advised us that they require a minimum of 45 days to process a Draft of the Environmental Impact Statement (EIS). Additional time is also needed to prepare the final EIS and the necessary review time.

Based on the foregoing, we submit an implementation schedule for the Honouliuli Sewerage System which more realistically reflects the necessary time required to accomplish the various tasks. This revised schedule is based on the premise that there will be no prolonged delays in obtaining (1) the Corps of Engineers Construction Permit in Navigable Waters of the United States, (2) Conservation District Use

Application, and (3) approval of the Environmental Impact Statement. Our schedule is also contingent on timely receipt of the necessary approvals from the Department of Health and the EPA. In this connection, we wish to mention two cases relating to the Sand Island project that point up the problems involved in establishing time schedules:

1) On April 7, 1971, we sent a letter requesting State and Federal grants for the Sand Island Sewage Treatment Plant, Unit 1, and Outfall Sewer to the Department of Health for review and transmittal to EPA. To date, we have not received any correspondence from the EPA or the State relating to the grant status of this project.

2) On January 21, 1972, we requested a waiver from the EPA Administrator from construction grant regulation 18CFR 601.25b; this is a waiver for secondary treatment. By letter dated May 18, 1972, EPA has informed us in response to a tracer sent in April 1972 that the matter is still in the process of being evaluated. To date, we have not received this waiver.

I now submit the revised time schedule for the Honouliuli Sewerage System:

a) By July 31, 1972, all necessary State Health Department permits to be obtained; preliminary engineering including planning of the treatment plant, studies of recycling of effluent for cane irrigation, and recharging of effluent by ground injection and additional oceanographic data collection to begin.

b) By March 1, 1973, preparation of construction drawings to begin.

c) By June 30, 1973, plant site to be acquired, provided Department of Health, Education, and Welfare can complete the processing of the City's application to acquire the land in fee simple.

d) By June 30, 1973, financing arrangement to be completed.

e) By May 31, 1974, construction drawings to be completed.

f) By October 31, 1974, contract to be awarded.

g) By November 1, 1974, construction to begin.

h) By December 31, 1976, construction of the treatment plant and all units of the first phase to be completed.

Mayor F. F. Fasi

With respect to the financing of these projects, the manner in which the State plans to advance funds for sewer projects will have a dramatic effect on the city's Capital Improvements Program.

The proposed requirement that the city's share for any project be totally expended before any State funds are spent results in a larger city expenditure over a shorter period of time. This acceleration will necessitate the deferral of other vital city projects to later years.

My Finance Director has also voiced some concern that this method of funding may adversely affect our ability to sell bonds for those projects.

We will be working very closely with the State in the development of this funding plan. And I might add the spirit of cooperation between the State and the city I think has been good to date.

There has been expressed a fear on the part of your local EPA official that the $5.5 million allocated to the Honouliuli Sewerage System may be withdrawn due to the revised time schedule.

In view of our latest timetable, I submit that these funds are premature, except for design funds.

Our major concern at this time is providing the necessary funds for our No. 1 priority project, the Sand Island Sewage Treatment Plant.

Any Federal funds which you now allocate to the Sand Island project will go far to relieve the financial burden on the State and the city and will expedite the construction of this vital facility. It will also place the allocation of Federal funding in the proper sequence.

For these reasons, I strongly recommend that the $5.5 million be withdrawn from the Honouliuli Sewerage System and be reallocated to the Sand Island Sewerage System, which we expect to advertise for bids in September 1972.

With respect to Paragraph 10, prevention of leachate pollution from the Waipahu Dump, we feel that before any construction is undertaken we should study the quantity, quality, and the effect of the leachate on the waters of West Loch. The short period recommended by the conferees to accomplish the control of the leachate indicates that the conferees believed that it was a relatively simple problem. However, the city and county, in its analysis of the situation, found that no one knew what the leachate was, what the quantities were, and what factors contributed to the formation of the leachate. The city and county felt that it could not begin to solve the problem without first knowing the nature of the problem.

Mayor F. F. Fasi

During this period, graduate students at the University of Hawaii, under the direction of Professor R. S. Lau, prepared a term paper concerning this leachate. This term paper dated December 15, 1971, and entitled, "Leachate from Waipahu Refuse Landfill-A Preliminary Evaluation of its Contribution to Pollution West Loch, Pearl Harbor," gave us some preliminary indications of the problem. The concluding statement of the term paper was, and I quote:

> The results of this study tend to show that the leachate present within the Waipahu Landfill is predominantly from a freshwater source and that its contribution to the pollution of West Loch is minor due to the fact that most of the refuse which is in contact with leachate has been diluted over the years. Unquote.

Meyers S. Bogost of the State Office of Environmental Quality Control has reviewed this term paper, and by letter dated January 25, 1972, stated that, and I quote again:

> It appears from the Lee-Bolduc-Mitter preliminary investigation that the quantity and quality of the leachate should be determined before any extensive and costly

> construction efforts are undertaken for the control of the leachate. End of quotation.

Since January of this year, we have been in contact with Assistant Professor Michael Chun, of the University of Hawaii, who will be conducting further analyses of the leachate problem. The tentative methodology will be as follows, and I quote:

> Sampling for leachate characterization would be conducted at the five wells the Navy has proposed to drill. Sampling efforts would be coordinated with Mr. John Murray of the Pearl Harbor Environmental Laboratory.
>
> With respect to quality parameters, initially, the following would be measured:
>
> 1) Total organic carbon;
>
> 2) Heavy metals such as mercury, lead, chromium, zinc, cadmium, nickel and arsenic;
>
> 3) Nitrogen;
>
> 4) Phosphorus;
>
> 5) pH;

6) Oxygen reduction potential;

7) Dissolved oxygen;

8) Conductivity.

The movement of subsurface water will be investigated through gauge measurements at the above-mentioned well sites.

Extensive data on the mechanical and hydraulic characteristics of local soils type are available in the literature as a result of studies by various State agencies, as well as the University of Hawaii. This literature will be selectively reviewed to assess and select a suitable soil that may be used as a protective berm or barrier at the landfill site should one be required.

Removal capacity of these soils will be determined through the use of laboratory studies. End of quotation.

We have instructed Michael Chun, of the University of Hawaii, to proceed immediately on the project. He estimates that the study will be completed within six months.

At this time we should be in a position to determine the magnitude of the leachate problem and the best course of action to solve the problem.

With respect to Paragraph 12, Erosion Control, a proposed grading ordinance was submitted to the city council on January 20, 1972. Section 23-2.4F of the proposed ordinance states that, and I quote:

> Prior to issuance of a grading permit, the permittee shall obtain a certification by the State Department of Health of the acceptability of the proposed erosion controls. Unquote.

The city council held a public hearing on the ordinance on March 7, 1972. Subsequent to the hearing, a city council advisory committee was appointed to review the proposed ordinance, to evaluate the testimony presented at the public hearing, and to determine whether any amendments should be made. To date, the advisory committee has not completed its review. In Honolulu, like in other cities, gentlemen, I have no control over the city council. And if you have a proven formula that will make them move when you want them to, please let me know. (Laughter.)

I wish to emphasize that the proposed ordinance has been reviewed by the Department of Health, who, in their letter of June 15, 1971, stated that they find no portion of the proposed grading ordinance that is not in consonance with the standards and policies of the Department of Health.

Since the Department of Health endorses the proposed grading ordinance, the requirement for the State to certify the acceptability of city-approved grading permits results in a duplication of review and an inconvenience to the public.

We propose to eliminate this duplication by requesting State approval of our grading ordinance immediately upon its adoption.

Lastly, with reference to paragraph 19, the Waipio Oxidation Ponds, we have implemented the recommendations of the report of the joint technical review group and can report that the ponds are operating satisfactorily.

We have constructed the wire fence and have posted signs as suggested. The ponds are visited daily by an operator who checks on the overall operation of the ponds. Scum is removed on a regular basis and pond performance is being monitored. Approximately 300 pounds of sodium nitrate are applied daily for odor control. We have also installed compressors and diffuser piping to permit aeration of the upper pond. This aeration is being done on a 24-hour basis.

All costs incurred have been assumed by the city.

We have received no Federal or State aid to date.

In order to implement the various facets of our pollution abatement plan, we need the cooperation of the agencies of the State and Federal governments to expedite the numerous approvals and to provide the necessary funding.

With this in mind, I recommend that a review plan be formulated for these projects which would incorporate the requirements of the various agencies at the various levels of government, but at the same time eliminate any duplication of review.

The coordination of reviews at the Federal and State levels to one agency at each level would go far towards expediting this review process. In other words, one man in the State agency and one man in the Federal agency to handle this project.

An article by Harold Hostetler in yesterday's issue of the Star-Bulletin & Advertiser addresses this problem, using the Sand Island Sewage Treatment Project as a case in point.

In conclusion, gentlemen, I wish to reaffirm the commitment of the city and county of Honolulu towards the basic objective of pollution abatement of the navigable waters of Pearl Harbor and its tributaries. There is no question in my mind that you, the State and the city are all anxious to overcome the problem of pollution. The job can be done and will be done only if we cooperate and only if each level of government lives up to its commitments to act when they must act.

As far as we are concerned, the basic problem is money. I repeat what I have said many times over and over again--give the city of Honolulu the money and we'll get the job done quicker, more efficiently, and at the least cost. In other words, gentlemen, what I am saying is, we can do a better job than State government or the Federal Government or both combined any day.

Thank you.

(The following documents were submitted by Mayor Fasi:)

June 1, 1972

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
DIVISION OF SEWERS

IMPLEMENTATION SCHEDULE
HONOULIULI SEWAGE TREATMENT PLANT AND OUTFALL SEWER

6-1-72	7-1-72	3-1-73	6-1-74	6-21-74	7-11-74	8-1-74	10-1-74	11-1-74	1-1-75
1 MONTH	8 MONTHS	15 MONTHS	3 WEEKS	3 WEEKS	3 WEEKS	2 MONTHS	1 MONTH	2 MONTHS	2 YEARS
NEGOTIATION WITH CONSULTANT	INITIATE PLANNING OF STP RECYCLE STUDIES RECHARGE STUDIES	DESIGN STP PREPARE PLANS AND SPECS	STATE APPROVAL	PRINTING OF PLANS AND SPECS	EPA APPROVAL	ADVERTISEMENT-BID OPENING	CONTRACT AWARD	NOTICE TO PROCEED - MOBILIZATION	CONSTRUCTION
6-30-72	2-28-73	5-31-74	6-20-74	7-10-74	7-31-74	9-30-74	10-31-74	12-31-74	12-31-76

APPROVED:

EDWARD Y. HIRATA

Honolulu, June 4, 1972 A-13
THE SUNDAY STAR-BULLETIN & ADVERTISER

LOOKING AHEAD WITH hostetler

By HAROLD HOSTETLER
Advertiser Environment Writer

Trying to protect the environment by requiring every construction project to get "approvals" from a myriad of government agencies — many of them duplicating one another — may not be the best procedure. It is turning out to be an unnecessary burden not just on builders but on the government as well. And it's driving up costs.

The problem was well illustrated last week by Edward Hirata, City public works director, who's having his problems in trying to build the City's two largest projects ever tackled: the Sand Island and Honouliuli sewage treatment plants. On paper, the Honouliuli plant is now two years behind schedule, and a good deal of the "delay" can be attributed to approvals.

Tomorrow the U.S. Environmental Protection Agency (EPA) will open informal hearings to find out why it's taking the City so long. But Hirata feels EPA itself is partly to blame.

THE CITY APPLIED to EPA in January for a waiver from the Federal requirement that all new sewage treatment plants provide at least "secondary treatment" — bacterial removal of wastes on top of physical separation of solids from the liquid. The City says "advanced primary treatment" coupled with a deep ocean outfall is just as good.

So far EPA hasn't said yes or no. A couple of weeks ago it told the City the application is still under review.

The difference could add $10 million to the cost of the $30 million sewage treatment plant. It's not just the added cost of extra equipment, but the inflated cost of waiting six months or more to find out whether it's even needed.

That's only one example of the approval requirement holding up the works, however. The Honouliuli plant will take two years longer to build than originally promised to EPA last September, Hirata says, because the Sand Island experience has proven the City underestimated its timetable.

OTHER APPROVALS that contribute to the delays include the need to get a "zone of mixing" from the State Health Department, prepare an environmental impact statement for EPA, get a conservation district construction permit from the State Board of Land and Natural Resources, and a "navigable waters" construction permit from the U.S. Army Corps of Engineers.

All of which goes to prove a lot of different agencies have jurisdiction of the same thing.

EPA and the U.S. Department of Housing and Urban Development will be holding workshops in Honolulu Wednesday and Thursday to discuss this problem with the County planning directors, public works directors, and State health and environmental officials. The conference will be aimed at coordinating planning requirements affected by water quality management programs.

Perhaps the workshop will help. But it's doubtful the delays are going to get shorter any time soon. As long as each agency jealously guards its jurisdiction, it will insist on reviewing plans with agonizing bureaucratic deliberation.

IT'S ALMOST like going to the doctor and — each time — finding he has to get a "second opinion" before writing your prescription.

EPA is now asking the City to submit its grading and subdivision applications to the State Health Department for erosion control review, because the City's grading ordinance has proven to be ineffective in that area.

Instead of this multiplicity of reviews, there needs to be some means of coordinating the criteria of various agencies to weed out duplication. The best solution may be to require the reviews only if the City's own criteria is less stringent than the State or Federal criteria.

In other words, if the State and Federal agencies say the City's proposed grading ordinance is strict enough, the City can go about its own reviewing. If the Federal Government concedes that Hawaii's water pollution laws are tough enough, it can allow State review and control of projects affecting that quality.

But considering the speed of change in government, it will be a long time until such projects as the Sand Island or Honouliuli sewage treatment plants could be dispatched with one permit granted by the State Health Department.

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MR. STEIN: Thank you, Mayor, for an excellent statement. The question is, in listening to your statement and what you think of the State and Federal Government or both together, the fact that you can do a better job than they can still raises the question whether that is going to be good enough. (Laughter.)

MAYOR FASI: I think it will be good enough. Just give us the money. Give us the money and the State and Federal Governments don't have to worry about a thing as far as Oahu is concerned.

MR. STEIN: Well, it is a question of who creates the pollution and who has to pay for it.

MAYOR FASI: The people that belong to the Federal Government and the State government create all the problems. The city government clears them up. (Laughter.)

MR. STEIN: That is an interesting point of view. I am glad I came here. (Laughter.)

Are there any questions or comments?

MR. O'CONNELL: I would like to comment on the Honouliuli time schedule. You may be correct that the original schedule laid out by the conferees was undoubtedly an optimistic one. In mentioning all of the various approvals which are required, it does tend to prolong these things. Of course they are not all sequential and I hope that these can all be worked on simultaneously.

Whether or not this is the shortest, most realistic time schedule or not is hard to say, just having seen it for the first time. But it appears to me that it does reflect a realistic point of view, and I think we ought to look at it with that in mind.

MR. STEIN: Are there any other comments?

It seems to me, Mayor--by the way, I think the suggestions you made are very constructive--but in essence, what you have asked for is 2 more years than the conferees had given at first. I have no judgment now whether your statement is realistic or not, but I do think that on the assumption that the city has its view of the problem--and essentially you have to do the work, so I think your view of the problem has to be taken very, very seriously and we have to look at it from the city's point of view--possibly if we have done nothing else we have stimulated the city to come up with this time schedule and this suggestion. I do think that the conferees should carefully consider this, because I think we do have a problem that we and the city of Honolulu have to work out.

One of these is we have a legal date approved by the Federal Administrator, we have a proposal by the Mayor of Honolulu that this is unrealistic, and he would suggest 2 more years. We also recognize that if we are going to get this done--and I think Mayor Fasi alluded to this in his statement--that we would have to coordinate this with Federal funding and get the Federal funds out, and we also do know, as the Mayor pointed out, that this isn't the only project. There are other major projects right here as well as in other parts of the country.

So it seems to me that the sooner we get together on an agreed-upon time schedule--and if that has to be adjusted we should do it--the sooner we can make arrangements for the funding of this project to proceed in an equitable manner. Again let me make this point, and I know the jurisdiction of this hearing is just on the Pearl Harbor and the Honouliuli project, but many other projects are concerned. If we get two projects competing for the same funds, there just isn't enough to go around and we have to coordinate the monies so they go ahead.

Are there any other comments or questions on this statement?

DR. MINETTE: No.

MAYOR FASI: I might in response, if I may, Mr. Chairman--

MR. STEIN: Surely.

MAYOR FASI: --point out that I was just as frustrated and surprised, almost shocked, that 3 years, from September of 1971, is just going to be used for trying to get the project on the road and only 2 years to construct the plant. This is what takes the time.

MR. STEIN: I recognize that. By the way, Mayor, I don't think this is unusual. This is more than a rule of thumb. I think in this business it takes about the same amount of time to plan or to acquire the sites and do all the preliminaries as to construct. That is, if you have a project that is going to take 2 years to construct, it usually is a 4-year project. If you have a project that takes 1 year to construct, it is a 2-year project. Perhaps, and I tend to agree with you, perhaps this is a commentary on our system.

MAYOR FASI: It is.

MR. STEIN: And our form of government and perhaps overlapping bureaucracies. This very well may be the case. In a sense, that is why I think that meetings of this kind get together because the tendency, unless you have a public meeting of this kind, is for letters to go back and forth, communications to go back and forth, allegations of unanswered letters, and I am not saying that they are not accurate, and so forth. But I think the point is that every once in a while if Federal, State and local officials can get before the public this way and lay all the cards on the table, we can get the material done.

For example, before I came here I heard a lot of material about those ponds, that they weren't in shape, that they weren't fenced, and so forth and so on, and I am very happy to come here and get the report from you that the ponds are working satisfactorily and they are fenced. Well, I think this is on the public record and we got this squared away. Again maybe this is one of the attributes of our form of democracy, but I am not sure you can get a straight answer to that unless we come here face-to-face in a meeting like this, because you get all sorts of versions of what the score is.

Now, if anyone, for example--and I would just like to use that as a point--if anyone here has a different view on those ponds, we have the forum open for the rest of the day and tomorrow and let him say something. If not, we can assume, using this system, that the ponds are working.

But I do think we have a tremendous job ahead of us and I think, Mayor, at least on the project that is under the jurisdiction here--and I am not, except in the most peripheral way, involved with the other ones--I think we do have a plan on what we are going to do and the first question, as you put it, is money. And I think the next question is time. And those are just the two factors that we in a sense have to deal with

Mayor F. F. Fasi

and the longer it takes us to get the money, the longer the time is going to be before we have the project. But I don't think we have any substantive differences on what should be done, and I am talking about the State, the city and the Federal installations here.

And by the way, I really understand your problem because part of the problem here in perhaps getting some of these answers and getting them down in writing is to be assured that your project is completely coordinated with the military installations here so we know what we are all talking about. When we get a big package from the military and a big package from you--and I have been looking at that, to figure out why some of these answers weren't forthcoming--I can understand part of the governmental official's problems. In other words, if they signed off on the military in writing without going out and just talking informally, or signed off on you, and there might be a difference, it again might take months to unravel. In other words, we have to be sure that where the projects mesh we are both talking about the same thing and we are not embarrassing you by approving one thing for the military installations and not embarrassing them by approving something for you that isn't consistent with both. And I think this is part of the problem we have here, and we have to recognize it and work together to work it out.

MR. O'CONNELL: I have another one.

MR. STEIN: Yes.

MR. O'CONNELL: Insofar as your suggestion that the discretionary funds of the Administrator that were made available for Honouliuli be transferred to Sand Island, I can certainly understand the basis for the request since these funds cannot actually be transferred to the city until construction is under way, and we will probably be making some recommendations to the Administrator on this.

MR. STEIN: You can make the recommendations. I will put this on the record. Because this was an enforcement conference, there were just so many recommendatory funds, and I recommended that they use funds for the Honouliuli project, that is among all the projects we have in the country, because I said you needed the money and I thought this was a vital project and very worthwhile in the national interest. I don't know whether my recommendation did it or not, but they certainly got it.

Now, the--

MAYOR FASI: May I interrupt, Mr. Chairman? I think your recommendation did do it, from what I have heard today and your feeling towards the problems here in Honolulu and your manner of approaching the problems, and what I can see is a sincere desire on your part to help us. This leads me to believe that you gentlemen are just like us in the city administration, good guys, we work together (laughter).

MR. STEIN: Yes, I believe so.

MAYOR FASI: We can get the job done. All you have to do is approve all of our requests. (Laughter.)

MR. STEIN: Let me raise the next question. You see,the problem is, I am the enforcement officer for the Federal program and the other project you have here is the--what is it?--Sand Island project. That is not under an enforcement operation. In other words, I would not make a recommendation to that. And I don't know that we have jurisdiction or enforcement jurisdiction or you would want us to have jurisdiction over that. The only way we probably could have it is if the State would invite us in on an enforcement case there.

So while I could and did make a recommendation on the Honouliuli project, the other project is handled by other people in the Administration. Perhaps your suggestion is a good one that one man should handle all projects, but we don't have that and the other project is in an area that is being processed in another portion of the program than I am concerned with.

MAYOR FASI: Well, I personally think, Mr. Chairman, that I would take my chance here with it. I think you would give a fair shake at this thing.

But please know this, maybe you are the enforcer back there, but we are more interested in getting the job done without anybody holding a club over our heads.

MR. STEIN: That is right.

MAYOR FASI: I think you understand that.

MR. STEIN: Yes, I do. Sometimes, and I don't know whether this is a compliment, they call me a benevolent enforcer, because once we get the agreement I do my darndest to try to see that you get the money. I know there is no point in telling a city to clean up, particularly one of these tremendously expensive programs that you have here, without talking in terms of funding. And I figure our job is just begun when we set up the time schedule if we don't put our shoulder to the wheel and do everything we can back there when they are dividing up the money in the cases that we have issued the orders against. We are just not going to get our job done and you won't be able to.

MAYOR FASI: Well, if it would help the situation, we do have enough money to put you on our city payroll. (Laughter.)

MR. STEIN: I am not sure. (Laughter.) Not really. (Laughter.)

Are there any other questions?

MR. O'CONNELL: Yes.

On the subject of the ponds, from the experience we have had or you have had with them since they were started, it appears that while they seem to be functioning properly right now they are on a fine edge of not operating properly. I wondered what actions the city is taking to control the addition of any additional waste loads to this pond, for example controlling development on the temporary area.

MAYOR FASI: I understand that one of the reasons why the ponds broke down was somebody was sending in too much zinc tailings or zinc metal and this is what caused the odor. I believe that as of now the problem has been overcome by the Public Works Department to the extent that the odors have been controlled, those that are dumping are being monitored.

MR. O'CONNELL: But I just wonder what the effect would be of increasing by any significant amount the amount of waste loading going to those ponds because they are on the fine edge of operating properly and not operating properly. I would think the additional loads to the ponds ought to be severely restricted until the Honouliuli system is available to eliminate the need for the ponds.

MAYOR FASI: I would think, and I am speaking off the top of my head now, that our engineer has control of the situation, that he will allow enough to go into the ponds to be taken care of, and if what you suggest happens, other measures will be taken.

Eddie, is that the--

MR. STEIN: I think this is an important point. I think I know what Mr. O'Connell is alluding to. But is this--maybe you want to speak first because I think we should at least raise this question with the Mayor while he is here.

Do you want to speak on this?

MR. HIRATA: Yes, Chairman Stein.

My name is Edward Hirata. I am the Director and Chief Engineer of the City of Honolulu.

With respect to the ponds, we have, as the Mayor has mentioned, constructed an aeration system which is a modification of the original oxidation pond concept. That means that we are artifically introducing oxygen into the system.

Now, we foresee additional loading and we plan to take care of this by increasing the introduction of oxygen into the system, but we are looking at the system because we realize that there is going to be additional growth and additional load on the system. One of the things that we are concerned about is when we stop the growth we are talking about going directly against the housing problem, which we are trying to solve. So we have on the one hand a pond that we do not want to overload; on the other hand we have some housing which we want to expedite. So we have a dilemma and we feel that we must increase or we must make the system efficient enough so that it can treat the sewage that is being generated by additional housing.

MR. STEIN: Well, I think you have gotten that fairly directly. But again let me say this while the Mayor is here. There is a problem we may be facing. I hope the aeration system works. I know in some of the industries, such as the pulp and paper industry, where you get a steady load 24 hours a day and you pretty well know what the waste is, which is much more uniform than waste coming from sewage, you can do a tremendous job in aerating these lagoons and getting a lot more capacity from a small lagoon. But if the implication is correct, and I am not saying it is, that these ponds are working now, but they may be at the fringe of their efficiency, and if we get additional housing and the ponds go sour again, then presumably there may be a recommendation from our Federal regional people if this happens to put a restriction on further connections or further building and development until the sewage treatment plant is built.

I recognize that this is a drastic dilemma. But I think we should have raised this while the Mayor is here, as long as our technical people tell us this is a possibility. I think the impact of this on any city is a severe one, and we should know where we are going with these ponds and have a reasonable assurance that they are going to work and if they are going to work if you are going to have additional connections or additional future buildings that the ponds can accommodate.

MAYOR FASI: Mr. Chairman, in other words you are saying that if we are up to capacity at these ponds and more housing is contemplated for that area, housing which I might say is probably in the shortest supply of any major city in the United States, in effect you are saying we will be forced to do either one of two things--1) allow the housing--or, rather, not allow the housing, put a moratorium on housing in that area, or, 2) let them build the houses but tell them not to use the toilets.

MR. STEIN: No, you know, there is a third thing, have them build the housing and be sure the ponds can accommodate it.

MAYOR FASI: Yes, but I am saying what if we reach the point--and I think your point is well taken--we may reach the point very shortly where the ponds can't take any more.

MR. STEIN: This, I think, is the point that Mr. O'Connell raises. Again, while we have the opportunity to hear, I think sometimes I may give you sad news but I don't believe in surprises or walking away when you don't know what our technical people have in mind. I would suggest that this be looked at very carefully, because if the capacity of those ponds is reached and the housing continues, we are going to have a real severe problem, and I think we are going to be faced with a Federal recommendation that we take some drastic action. Now, I don't know how we get at this and I don't know how much more these ponds can take or what the development is; I am not at all familiar with the logistical details of the situation.

MAYOR FASI: We may have to build more ponds.

MR. STEIN: Well, do you have an area there for it?

MR. HIRATA: There is--this isn't in a sugarcane area. However, I would like to point out that all the efforts that have been taken by the city have been strictly done using city funds. Now, what we really would like to see is for us to go in and with the State, Federal and city funds together to do a first-class job of aeration on this pond, because we responded to this need,and we did whatever we could within our means. Now, I think what we need to do is to go and do a first-class job of this areation.

MR. STEIN: Wait, now, the Mayor said something and you did too. Maybe this means something to people here on the islands that it doesn't mean to someone on the mainland.

The Mayor said you may need more ponds and I have a gut hunch that maybe that to me would be the answer. Now, if you are saying that it is a sugarcane area and you can't get any more land there, then maybe we had better face up to that. But the question here is--

MAYOR FASI: We can get the land, sir.

MR. STEIN: Oh, you have got the land?

MAYOR FASI: We can get the land.

MR. STEIN: You can get the land? O. K.

MAYOR FASI: Give us some money (laughter).

MR. STEIN: No, I understand that is always the case. I understand you haven't asked for these ponds.

By the way, Mayor, I think your instinct is probably right. I think if we have a situation like this where we are dealing with ponds and you are dealing with aeration, you are dealing with men and machines and you know they both fall or fail and they break down. The way to handle that, and particularly over the term that you have here, if at all possible you can be thinking in terms of expanding this so we don't run into one of these horrible problems where the alternative, as you say, is going to be either, say, a moratorium on housing or plugging up the toilets. Either one of them is going to be pretty hard medicine. The answer, unless you are really clear that this aeration is going to work, might be your thinking in terms of additional pond area so we will not run into the problem.

As I see it here, from a potential of what can affect the life of a city, a confrontation like that is among the worst kind. I am going back next Thursday and going to meet on the Potomac in Washington, D. C., and we have had housing and subdivision moratoriums in the suburban counties of Maryland around Washington for the past several months, and we are having the wildest, most difficult time breaking the dilemma and breaking out of that. If you want to imagine what kind of local hardships that can pose, you just have to come there and see that.

There was one brand-new shopping center that we didn't permit to open, and they had to put in a tremendously expensive private local sewage plant. I believe it cost them an extra million dollars or so just to get the shopping center open.

These are some of the consequences that can occur, so I suggest you might want to consider some more land if you can.

MAYOR FASI: Mr. Chairman, if Pearl Harbor waters were in the same condition as the Potomac, I would urge you to be just as tough out here.

MR. STEIN: Well, but look what you have got here. I am not sure, you see, in this landlocked harbor here--

MAYOR FASI: I have been in that harbor probably more than any elected official in the State of Hawaii over the period of the last 8 years, and I can report first hand. At the Arizona Memorial ceremonies the last time, I actually was amazed how much the military had done in cleaning it up. It looks good. It is a little dark in areas and a little murky, but--

MR. STEIN: That is just a cloud. (Laughter.)

MAYOR FASI: I do want you to know, you talk about landlocked area, there is an estimated 40 or 50 million gallons of freshwater in springs that bubbles up to Pearl Harbor. So it is always being diluted. Also the tides are coming in and out. So it is not really landlocked.

MR. STEIN: That is why, you see, with those streams bubbling up, it gives it a dilution of the sea water and gives it that brackish quality so shellfish can grow so we can have jurisdiction. (Laughter.)

MAYOR FASI: Didn't you kind of stretch that law a little bit?

MR. STEIN: What?

MAYOR FASI: Didn't you kind of stretch that law a little bit?

MR. STEIN: Well, if we did, it was for a good purpose. (Laughter.)

MAYOR FASI: I agree with you.

MR. O'CONNELL: I have just two more comments, one relative to the dump.

We just last week or the week before had one of our geohydrologists come out and meet with the city and inspect the facility. He prepared a report which we have just provided to your staff and to the State, and I wouldn't expect anyone to respond to it this quickly, but I wonder if I could add that to the record, Mr. Stein? Some recommendations are made in it and we would hope to get your reaction to it sometime in the near future as to the recommendations contained in that report.

MAYOR FASI: O. K.

MR. O'CONNELL: They are not antagonistic at all to your proposal and I think would complement it.

MAYOR FASI: I have to ask my aide if I have read this yet. I don't know. (Laughter.)

He said we got it about 30 seconds before you did.

MR. O'CONNELL: Yes, I wouldn't ask you to try to digest it and respond this quickly.

MAYOR FASI: We are fast, but not that fast.

MR. O'CONNELL: Right.

MR. STEIN: All right, without objection this will be received in the record as if read. I haven't read this either. Have you?

DR. MINETTE: Just glanced at it.

(The report referred to follows:)

Geohydrologic Appraisal of Leachate Seepage from Waipahu Refuse Landfill

by Robert C. Scott, EPA

The following recommendations for control of leachate seeping from the Waipahu Refuse Landfill are based primarily on my field observations, the report from the University of Hawaii by C. Lee, P. Bolduc, and W. Mitter, and analyses of samples collected by C. M. Seeley. The recommendations are listed in the order that they should be implemented, should recommendation number one or any other preceding recommendations fail to provide the desired control to reduce the flow of leachate from the landfill.

1. As the landfill is phased out and covered with soil, it should be graded to prevent standing pools of water from forming during a rain. The soil surface should be seeded with grass seed of a variety that will form a sod. These two actions will diminish most infiltration from rain. If there are species of phreatophytes that will thrive on the Island, then a few should be planted on the landfill after it has been covered with soil. After their roots reach the water table the plants should be very efficient pumps and evapo-transpire much of the water now tributary to the seeps.

2. The Landfill is to pographically isolated from inland fields and the base of the landfill with respect to sea level is not know. Therefore it is possible that some perched groundwater from irrigation and/or infiltration upstream from Kapakaki or other streams would pass through the base of that part of the landfill that is in the old Hawaiian fishpond and "spill" over as seeps along the edge of West Loch. To control this, drainage ditches would have to be constructed up-gradient (inland to the landfill) to intercept and divert the underflow, in effect, hydrologically isolating the landfill from perched groundwater bodies. Before undertaking this measure, a shallow-well exploratory drilling program is advised to determine extent and importance of the perched groundwater zone.

3. Another possible source of fresh-water seeping through the landfill is deep artesian groundwater leaking upward through the confining beds that also form the base of the landfill. This source would be the most difficult to control. Most practical would be to install several deep water-supply wells around the landfill. Heavy continuous pumping should relieve much of the artesian pressure under the landfill, and thus reduce the supply for the leachate.

4. It is not believed that tidal action contributes much to the leaching of the sanitary landfill. The tidal range is small and samples from shallow-well points near the edge of West Loch were low in salinity, indicating that most of the leaching could be attributed to a fresh-water source. If tidal action were the only source it could be controlled by construction of a barrier around the edge of the landfill. To do this without interception of the fresh-water sources would make the problem worse by raising the height of the saturated zone in the landfill. This would increase the concentration of material in the leachate.

MR. STEIN: And we will get comments from them. Again on this landfill area, I think we are all trying to come up with a solution.

You said one thing if what you said is true, I think your contention was correct, that this is not an easy problem to solve, but I never thought it would be. In other words, I think you have a pretty complex problem on that refuse landfill with freshwater falling in and leaching out and raining off that we have to take into account. I don't think that is going to be a simple or obvious solution how we are going to get this landfill fixed up.

MR. O'CONNELL: One other comment with regard to erosion control. As you pointed out, the recommendation of the conferees back in September was that your grading ordinance be amended to provide for certification from the Health Department prior to issuance,and you are proposing in the interests of eliminating duplication that this be dropped. Now, this would be 180° out of phase with what the conferees had recommended,and I think that there ought to be a lot more discussion of that before that kind of action is taken.

MAYOR FASI: May I repeat, I think I said in my statement why. In other words, why duplicate the provisions of the ordinance if they have been approved by the State Health

Department, by the State agency, as long as we have, and I think we do have, a planning department and engineering department that would make applicants live up to not only the intent and the spirit of the law, the letter of the law. I think we have that, and just to bring another agency in to pretty much stamp the same approval that we have given somebody takes time and time means money in the cost of a construction of a home, which is passed on to the ultimate buyer. And as you probably know, here in Honolulu we pay more for our houses than probably any place in the United States for comparable living quarters.

So if this is another step in adding another costly item to the construction of a house that we don't need, I think we ought to do everything possible, reasonable, and knock it out. That is all I am saying.

MR. STEIN: Dr. Minette points out, and I was going to say, that the ordinance has not been passed yet. Now, I guess the judgment is if the ordinance is passed, then you would suggest that you operate this without State certification.

Let me say as far as the Federal Government is concerned, are we involved in how they resolve that question one way or the other?

MAYOR FASI: We are asking that the State certify the ordinance that is passed. In other words, before it becomes law we would ask them to certify that this is acceptable to them, the language.

MR. O'CONNELL: I think the purpose of the original recommendation was to put the State Health Department in the position of monitoring the application of the ordinance to each individual situation. I am sure it will be a good ordinance; a lot of thought has gone into it. But if in spite of it erosion takes place and silt washes into Pearl Harbor, it would be up to the Health Department to enforce their water pollution control regulations to stop it, and it is always much more feasible and practicable to attempt to apply the proper controls before it happens rather than come in afterwards and try to straighten it out after the fact.

I think that was the purpose of the original recommendation.

MR. STEIN: Are there any further comments on that?

MAYOR FASI: I think the whole problem can be simplified if we can get the State telling the city what kind of language they would like to see in an ordinance passed by the city. I think if that is done, then there would be no need for a duplicate bureaucratic O. K. of each applicant's permit.

MR. STEIN: May I make this suggestion. Mayor, I think your point is well taken, at least as far as I am concerned. What the Mayor is saying is that the permittee on this erosion control obtain a certification from the State Department of Health of the acceptability of the proposed erosion controls, and he is saying if the city of Honolulu puts in a good ordinance, why do you need this. Can I--

MAYOR FASI: An ordinance approved and certified by the State.

MR. STEIN: By the State, right. Now, I would suggest, if you get an ordinance approved and certified by the State and you and the State can come to an agreement on the method of certification, I think if you want to come to us with this and both you and the State get together, I think we would be very sympathetic to it. This is the kind of thing that, as far as I can see, the Federal Government would like to see the State and you work out together.

MAYOR FASI: That is fine, except that I can't do it. It will have to be the city council.

MR. STEIN: I understand.

MAYOR FASI: And if they heard that I said I was going to do it I might be criticized. I say I think the city council will be very happy to work with the State. (Laughter.)

MR. STEIN: I understand that. I am a big city boy myself, Mayor. I have heard that all my life.

MAYOR FASI: What city are you from, sir?

MR. STEIN: New York.

MAYOR FASI: New York?

MR. STEIN: Specifically Brooklyn.

MAYOR FASI: Brooklyn?

MR. STEIN: But I have been in Washington well over 30 years.

Are there any other comments?

If not, thank you very much.

MAYOR FASI: Thank you, sir, very, very much. I think this proved highly constructive and that we can get the job done when you want us to do it if you give us the money.

MR. STEIN: All right.

MR. HODGES: Mr. Stein, before Mayor Fasi leaves, I think the purpose of this is to kind of lay everything out on the table, and I think Mayor Fasi has expressed the situation is one of money. We have a representative of the State here, we have the city here, and we have the Federal Government here, and I suggest that you get together in front of the public right now and tell us what money you are going to lay out and the city to say and the State to say and the Federal Government to say. Otherwise it is not going to happen.

MR. STEIN: We have an expert on that. We can call on your favorite State representative, Dr. Marland, and he can outline the finances.

MR. HODGES: I think Dr. Marland can outline what the State is going to do, I think Mayor Fasi could outline what the city is going to do, and--

MR. STEIN: Don't you think it would be worthwhile for the city to finish its presentation first, sir?

MR. HODGES: Yes, but I am just saying while Mayor Fasi is here it would be--

MR. STEIN: I understand, but I am not sure that we want to impose on the Mayor's time. I think your suggestion is well taken. We will have Dr. Marland come up and put the financing forward. He has kept on top of this. But I wouldn't want, unless the Mayor's schedule permits, to do this now.

MAYOR FASI: I think that the schedule for the city has been outlined.

MR. STEIN: Right.

MAYOR FASI: And the major portion of the funds as far as the city is concerned were committed. Now it is up to the Federal Government and the State to lay out a program as to when we will get that money, and I don't think Mr. Hodges has any qualms of my being here. If you have the money and we are going to get it, you can tell us when, then we are going to do the job.

MR. STEIN: No, Mr. Hodges had a procedural point. He wanted to have this presentation while you were here. I don't know, did you want to do it? You have to go?

MAYOR FASI: I am sorry.

MR. HODGES: What I am saying is that this is basically, you know, Frank Fasi is saying to the Feds and the State, "Put up or shut up," essentially, and that is what the State is saying to the Feds and that is what the Feds are saying to the city and the State. Everybody is talking around, it is going to take money--

MAYOR FASI: I disagree with you completely, sir.

MR. HODGES: Mr. Fasi, you said in the last--

MAYOR FASI: If you will just listen one minute, Mr. Hodges.

MR. HODGES: Sure, go ahead.

MAYOR FASI: We are working very well with the State and the Federal Government. We have committed our funds. And when the time comes I think the Federal Government will come through with their funds and so will the State. We have got several months, a number of months of planning. We will know by the end of that time where the money is coming from. And I can bet you as well as we are standing here that the money will be made available by both the State and the Federal Government. I don't think it does any good to come to a public hearing and start accusing people of bad faith.

MR. HODGES: We are not, Mr. Fasi.

MAYOR FASI: That is what you are implying.

MR. HODGES: I am not implying that. I am saying--

MAYOR FASI: Thank you very much, gentlemen. Have a good time.

MR. HODGES: --to ask Mayor Fasi what money is going to be put up, what and which bonds he is going to sell and when. We are going around and around in circles, Mr. Stein.

MR. STEIN: No--

MR. HODGES: If the money is not going to come it is not going to happen, we are--

MR. STEIN: Just a moment. We are not going to be out of order.

MR. HODGES: I am just--

MR. STEIN: I know, but let me try to do this for you. We will schedule certain Federal and State funds. I hope that the State will do it. I don't want to speak for the State, but I think they have agreed to do that. Now, it is the city's obligation to get that money up. If they don't get the money, you have to recognize that the city is the responsible party. It is the party that is polluting and we can proceed against the city and we will.

Now, the point is, and I don't think you have to put too prime a point on this. The Federal Government is not proceeding against the Federal Government if we don't get up the money because we are not polluting. We are not going to proceed against the State because the State is not the polluter here. The city is the polluter. What we have is a stimulatory and aid program from both the State and the Federal Government. If we can get our funds up, then the city is legally responsible and if it doesn't get its money up--and I am not just saying this about Honolulu; this is any city--if it doesn't get the money up, we can proceed against them legally. That is what we do and have done in a variety of cases.

I would hope from listening to Mayor Fasi, and I firmly suspect, that we will not come to that situation here and the money will be forthcoming and we will go ahead with the project.

MR. HODGES: See, Mr. Stein, one thing, Mayor Fasi indicated on page 9, he said:

> The proposed requirement that the city's share for any project be totally expended before any State funds are spent

results in a larger city expenditure over a
shorter period of time.

And this is something that I alluded to when I talked to you earlier.

MR. STEIN: We are going to have Dr. Marland speak to that point.

MR. HODGES: Today?

MR. STEIN: Well, I hope we will get him on today. Let's try. But after they finish, we will put Dr. Marland on, surely.

Mr. Hirata. We will get Dr. Marland on as soon as possible.

MR. HODGES: All right.

EDWARD H. HIRATA
DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII

MR. HIRATA: Thank you. Mr. Chairman, Mr. O'Connell, Dr. Minette. As I mentioned before, I am Ed Hirata, Director and Chief Engineer of the City and County of Honolulu.

I will be presenting testimony on behalf of a subcommittee appointed by Dr. Richard Marland, Chairman of the Pearl Harbor Task Force. The subcommittee consists of Colonel Donald Gabe, Director of Engineering, U. S. Army, Hawaii; Mr. Shinji Soneda, Chief,Environmental Health Division, Health Department; Doak Cox, Director,Environmental Center, University of Hawaii; and myself. Although Dr. Cox did participate in the preparation of this presentation, we were not able to get his signature because of the fact that he is out of town, although he agrees with the statement.

This testimony is the result of findings and recommendations of the committee and essentially covers paragraphs 7, 8 and 9 of the conclusions and recommendations of the Pearl Harbor Enforcement Conference. The committee used as a starting point the first progress report on paragraph 7 which was addressed to you, Mr. Stein, dated December 15, 1971, and submitted by Mr. Albert C. Zane, the then Director and Chief Engineer of the city and county of Honolulu. The report included a plan of implementation which was divided into two phases. The first phase included projects which would be completed by the end of 1974. The second phase would begin in January 1975 and be completed no later than December 1977.

We are happy to report that a number of the items included in Phase I have either been implemented or are ahead of schedule:

1) There are no known discharges of untreated domestic sewage entering Pearl Harbor from the Waikele Stream.

2) The Army has awarded the contract to construct the Schofield secondary units and construction will begin shortly.

3) Treated effluent entering the Waikele and Kipapa Streams are being withdrawn along with groundwater by the existing Oahu Sugar Company pumping stations and used for irrigation purposes.

4) The Waipio Sewage Treatment Plant will be abandoned earlier than previously scheduled. Construction work to effect this abandonment will start in September of this year and be completed by February of 1973.

This committee recommends that the two-phased plan of implementation as contained in the December 15, 1971, report on pages 7, 8, and 9 be officially adopted. It is further strongly recommended that if paragraph 21 of the conferees' report does not include monitoring of the rates and quality of the flows of the Waikele Stream and studies of the effects of these flows in the waters of the harbor, that this additional work be included in that program. It must be recognized that results of the Water Resources Research Center investigations and for the monitoring of the Waikele Stream discharges might well call for changes in the plan of implementation and schedule of projects noted in Phases I and II.

If there are any questions, gentlemen, I will be glad to answer them.

MR. STEIN: Thank you, Mr. Hirata.

Any comments or questions?

If not, thank you very much.

MR. HIRATA: Thank you, Mr. Chairman.

MR. STEIN: Are there any other city people?

Mr. Hirata, does this conclude the city's presentation?

MR. HIRATA: It does, Mr. Chairman.

MR. STEIN: Are there any people from the county?

MR. HIRATA: Beg pardon?

MR. STEIN: The city and county both?

MR. HIRATA: This is the city and county of Honolulu.

MR. STEIN: Right, both concluded.

Where is Mr. James Veary? Is he with the city and county?

MR. HIRATA: Yes, Chairman Stein. I think the agenda as printed is incorrect. The only two participants--

MR. STEIN: O. K.

MR. HIRATA: --were Mayor Fasi and myself.

MR. STEIN: Right. I didn't want to slight anyone. And you know, the agenda doesn't indicate whether he comes from the city or county. O. K.

Dr. Michael Chun and Dr. Lau, are they going to testify or not?

MR. HIRATA: Mr. Chairman, as far as Dr. Chun was concerned, he was also on our team, so that presentation has been made by Mayor Fasi.

MR. STEIN: And how about Dr. Lau?

MR. HIRATA: I cannot answer for Dr. Lau.

MR. STEIN: Is he here?

MR. HIRATA: The information I have is that he is not going to testify.

MR. STEIN: Right. All right.

Let's see if we can call on Dr. Marland, then.

Dr. Marland.

DR. RICHARD MARLAND

DIRECTOR, OFFICE OF ENVIRONMENTAL

QUALITY CONTROL, HONOLULU, HAWAII

DR. MARLAND: Mr. Chairman, I do not have a prepared statement to submit for the record.

I would like, on having listened to Mayor Fasi's presentation, to point out that Mr. Hirata and his staff have indeed been working closely with our office and with representatives from the State from other offices in developing their new proposed time schedule for the construction of the Honouliuli sewerage treatment system. I believe that the time schedule they have provided to you is indeed a realistic one and I hope that the conferees in their wisdom endorse this modified time schedule for the construction of the Honouliuli system.

The $5.5 million monies which were set aside by the Administrator for the Honouliuli system is discretionary funds. It has been requested--of course, Mayor Fasi today reiterated his request that they be made available earlier. As you may recall, Governor Burns made this request to the Administrator, oh, something on the order of two months ago, requesting that that $5.5 million be authorized for other systems now in planning and ready for construction in Oahu and on the basis that both the City and State would agree to proceed with the best possible, quickest construction of the Honouliuli system.

We have had a response of a kind from Administrator Ruckelshaus just quite recently in which he pointed out that he had received this request and that by virtue of your presence here at this time he would postpone his decision as to whether or not to make this money available now pending the recommendations from you following this meeting.

MR. STEIN: But listening to Mayor Fasi, he indicated that we prematurely didn't need the money for this now, he would rather have it for Sand Island.

DR. MARLAND: This is substantially what the Governor requested in his letter of some two months ago, is that the urgency for funds is now in order to assure that the heavy front end money is needed, because as it stands right now, in the next 15 months throughout the State of Hawaii more than $90 million worth of sewerage construction can be started. The extent to which Federal funds are available, of course, is something less than 55 percent of that $90 million. So as a consequence, if on the basis that the State and city assure EPA that the Honouliuli system will be built on the best possible time schedule, we would, therefore, request that the $5.5 million made available for that be made available now at this time when our need for Federal funds is greatest.

So that is the basis on which both Mayor Fasi today and Governor Burns two months ago made that request.

MR. STEIN: Do you want to address that question which has come up several times, and I would like some clarification on that myself, about the expenditure of local funds first? I think that was alluded to.

DR. MARLAND: Back in September, during the enforcement conference proceedings here in Honolulu, I had a prepared statement which included the Governor's plan to request from the legislature, from the recently completed Sixth Legislature, a request for funds to assure the construction of all needed systems in the State of Hawaii. This bill was introduced, it was passed by the legislature, the numbers of dollars appropriated were some $40.4 million. These will become available on the first of July, because they are, of course, fiscal year for next fiscal year.

Now, that $40.4 million is a calculated figure. There are available currently some several million dollars, $6.76 at the moment, of Federal funds; there are some $8 million of State funds that have already been appropriated for construction of sewerage needs. These, coupled with the $40.4 million, assure that every system in the State, construction of which can start before July 1 of 1973, can proceed on schedule. There is no lacking of funds.

You recognize that by the legislature's taking this most unusual action that they indeed are concerned with the way in which the money is in fact managed, so during the hearings the request was made by the house finance committee that an assurance be given from the county in each case, all of the four counties of the State, that in the event of any of the money being used or needed which would be advanced as a Federal share that indeed the local share would be that which is expended first. In other words, those who were the principal beneficiaries of the system would be the ones whose monies would be expended first in its construction.

And so, acting on the fact that the Legislature made this request, I checked with the general counsel of EPA and found that this was indeed an appropriate procedure, so then met with the finance directors and chief engineers of each county and pointed out that beginning on July 1 we would be prepared to issue a letter, which is a requirement under our law, that the Mayor of each county undertaking a project of this nature have an authorization from the Governor that sufficient funds are available for the project to be completed. Otherwise the project could not be started. So that beginning on July 1, any sewerage project which came under the 5-year plan which was ready to go, that they would receive such a letter, and then we outlined the manner in which the funds would be transferred to the city-county when indeed the funds became necessary.

MR. STEIN: Any questions or comments?

MR. O'CONNELL: So for example, the county might fund the design work fully and their fund contribution might be exhausted just as construction starts, then the State money would be used to pay the early stages of construction and the Federal money the later stages?

DR. MARLAND: That could be in whatever sequence things like that happen. If the design project used 20 percent of the total project funds, yes, that would be a good illustration. Of course there is no intent here to do anything other than manage public funds with the greatest possible degree of discretion and at the lowest possible cost in the terms of interest to the taxpayers.

MR. STEIN: Any other questions?

Do you want to say anything else on this financing or any other aspect at this time?

DR. MARLAND: Other than to reiterate my strong feeling that the availability of this $5.5 million currently earmarked for the Honouliuli has indeed justified re-earmarking this to the highest priority items in the State now, and based on the fact that you have the fullest possible assurance both from the city and the State that the Honouliuli system will be built on that best possible schedule. That would be No. 1.

The second, of course, is that I agree with and strongly urge that these conferees modify Nos. 4 and 5 of the original recommendations so as to accommodate to the new rather carefully developed time schedule which Mayor Fasi and Mr. Hirata prepared and submitted to you. I endorse that very strongly, hope that it receives your approval.

MR. STEIN: Well, I am not sure we have an absolutely uniform record here, Dr. Marland. You ask for a transfer of that $5.5 million which we got as a special allocation for Honouliuli because it was involved in an enforcement action which we thought had national priority and we asked for that money and got it allocated. One, we have the situation where that project will, according to the city, be moving ahead, say, 2 years behind what we expected at the last conference. The notion is to move this over to another project, presumably Sand Island. This is a project for which--and I am just repeating what I hear in the record--you are going to need a waiver to get that project in the first place, because it may not fit the Federal policy for secondary treatment.

And secondly, if we should put the money where it would do the most good on the assurances from the city and the State that the Honouliuli project will be completed in accordance with the schedule you put out, while those assurances might be good, in various places if we get these impressions that the city doesn't know whether the State is going to put up the money and the State doesn't know about the city, these are the problems, what good are those assurances?

DR. MARLAND: And this, of course, is what the Legislature has assured and what I have this afternoon reassured, that is that these monies have been authorized and appropriated by the legislature and the systems that are ready to go will be built. And of course, I did not say--

MR. STEIN: You haven't authorized all the monies to carry you through the completion about Sand Island and Honouliuli, have you, or either you--

DR. MARLAND: No, the legislature was not asked to do that.

MR. STEIN: In other words, what you are saying, that you are asking us to transfer $5.5 million from one project to another project on the assurance that a legislature which was not asked to do something will vote something in the future?

DR. MARLAND: No, you are asked to provide the availability of $5.5 million at this time--

MR. STEIN: Yes, on what assurance?

DR. MARLAND: On the assurance of the Governor of the State and the Mayor of the major city of that State that they will carry out actions which are called for.

MR. STEIN: I just heard the Mayor. He said he couldn't control the city council and--by the way, I am not saying that in a deprecatory way at all. And I assume that the Governor can just propose to the State Legislature. In other words, both of them have to vote funds. The assurance is just what the chief executives of both the State and the city are going to ask the legislature to do in the future.

DR. MARLAND: I think the evidence both in documentation from Mayor Fasi and from the Governor is that the Honouliuli system is very definitely a part of our plan, we fully intend to construct it and carry it out on schedule, and the experience again in Hawaii is that legislative appropriations are made for projects which have that kind of priority. So I think there is a very strong justification for showing confidence in the State of Hawaii and the city and county to carry that out.

MR. STEIN: Are there any other questions?

Thank you very much, Dr. Marland.

We don't have any more speakers scheduled. Is there anyone else?

Mr. Hodges. Why don't you get up here, if you will.

TONY HODGES

LIFE OF THE LAND

HONOLULU, HAWAII

MR. HODGES: I thought I would ask, Mr. Stein--I don't have it with me; I wish I did--would you get out the statement made at the last conference by Dr. Marland representing the Governor and the Governor's good intentions, and I think at that time the offer was that the State was going to--that the Governor was going to introduce into the Legislature a bill asking for funds to provide the State and to advance also the Federal share. I am not sure of the exact figure; I think it was very close to $100 million. Is that right, Fred? It was about $100 million. Now we are talking about $40.4 million. I am not sure what happened to $60 million that the State was talking about.

And I think as far as this rule that they are proposing to the counties, that essentially counties have got to, you know, crack the nut first with the money, and once they spent it--you know, the State essentially is delaying expenditures, is what it amounts to. I guess they are not going to float the bond they are talking about until after the county has exhausted all of their funds; you know, you go first, essentially. This doesn't seem to me to be a very strong backing by the State of the, you know--

MR. STEIN: Isn't that a matter of State law? As I understand Dr. Marland, that is what the Legislature put into effect, that the counties have to put the money up first. Is that correct?

MR. HODGES: I don't believe that is so. Would someone like to answer that?

MR. STEIN: I don't know. All right.

MR. HODGES: The thing I am trying to get across, and this is why I asked Mayor Fasi, you know, to maybe put down the amount of money the city is going to put up. I know the other counties have the situation, too, where they don't have enough money. And I think it is very important that we find out in a fairly public manner just who has what money and who is going to put it up and get it all out on the table and see if we have enough.

You know, last--when was the conference, September, right? All right, in September, you know, Dr. Marland, representing Governor Burns, said that the State was prepared, you know, to raise $100 million to advance, you know, to provide the State funds plus to advance the Federal funds, the Federal share. And as I understand, the bill went to the legislature, introduced by Jack Suwa, I think it was only about $50 million, and it got amended down.

MR. STEIN: As I understood Dr. Marland, he indicated that the State had enough money that all projects started could be funded, those started by the end of 1973, the State had sufficient funds to do that.

MR. HODGES: Well, I--

MR. STEIN: However, if they were matched with the Federal funds and presumably the local funds. Now, before that time the State Legislature presumably will meet again and get another crack at it, won't they? In other words, what Dr. Marland has indicated, as of the present time there is no lack of Federal funding for projects that are ready to get under way and started before the end of 1973, which is a year and a half away.

MR. HODGES: O. K., I can't argue about that. All I can do is refer you back to the assurances that were made by Dr. Marland representing the Governor of the State in September that were not followed through on, which was to provide the State and the Federal shares. Instead of $100 million he is coming forward with $40 million and being contingent on the county providing the money first. That is a simple point, I guess.

MR. STEIN: I understand what you are saying. But, Mr. Hodges, I am trying to get this together.

MR. HODGES: Yes.

MR. STEIN: I am not looking for--in other words, we want to get these plants built.

MR. HODGES: And you need money.

MR. STEIN: Right. Now, I understand your point very well. But I think we have all been around government a long time and Mayor Fasi put this forward. He made several allusions to the success or lack of it with the city council. We all know that chief executives make proposals.

I think that what we have was the State made a proposal for waste treatment financing,and I think we point out that what the legislature passed was not what the State executives said they were going to do. I don't know that the Congress ever passes what the--

MR. HODGES: Precisely.

MR. STEIN: --Federal executive recommends or

I don't know if the city council ever passes whatever Mayor Fasi recommends.

However, what I see here, and I ask us to try to work this out, we recognize that the purse strings in our system of government are always held by the elected representatives, the council, the legislature, the House of Representatives, the Congress. That has always been the tradition, I guess, since Magna Charta in our tradition. O. K. And these people are not always going to respond, nor should they, to what the executive says.

MR. HODGES: Surely.

MR. STEIN: However, as I see this, I am not sure that as long as we can stay ahead of the game and keep these projects moving forward and get the money coming in to meet these that we will not be achieving the purpose.

Now, looking at this meeting, and I get several problems here, one is--and this may be entirely justified, because I haven't looked at it again. One, we have to at least look and determine that 2 more years are going to take place before the Honouliuli project is completed, 2 years longer than we expected when we had the last conference, if the city is correct. And it is from December 1974 to December 1976. Mayor Fasi's date was December 1976. O. K. That is something we have to look at.

You also have to look at the situation where because certain funds are available it is suggested that the monies be used for another project which may be very important to the State of Honolulu, the Sand Island project, and that project is not, as far as I can see, out of the woods yet because a waiver is needed--

MR. HODGES: Right.

MR. STEIN: --before it can go forward.

MR. HODGES: Let me ask a question. Has the Environmental Protection Agency or the Federal Water Pollution Control Agency before that ever given a waiver for secondary in funds?

MR. STEIN: Yes.

MR. HODGES: How many times?

MR. STEIN: One that I know of.

MR. HODGES: One?

MR. STEIN: Seattle. Right?

MR. O'CONNELL: I think that is right.

MR. STEIN: That is all I know.

MR. HODGES: Because the city right now is using that as an excuse for their inability to go forward.

MR. STEIN: All right.

We are in a sense faced with a situation where at least from the State point of view and I believe from a Federal point of view there are in the kitty enough funds available to keep the projects moving forward. But we are in a little unusual situation, Mr. Hodges, in pollution control and one in which we don't always find ourselves. Usually we have a project or agreement that we have worked out with a State and a city or a State and an industry--let's stick with public financing--a State and a city and the Federal Government, and we don't have the money to do it. Here we are really being held up, and this is the awkward point, it is not so much the question of the money, but the fact that we haven't got everything lined up to move ahead with these projects yet.

I think possibly this is even a little worse, because it seems to me it is a shame when all parties come in and say the money is available, and we still have hangups on a couple of projects and are not getting them along. Maybe we should get up at 4 o'clock in the morning and look at ourselves in the mirror to see what we are doing.

MR. HODGES: I think one thing, Mr. Stein, that regardless of saying the money is available, I think it is important they prove it, just as I asked Mayor Fasi how much money and what bonds are you selling? Let's see the color of your money. You know, the same thing with EPA, the same thing with the State--

MR. STEIN: Here. Again, Mr. Hodges, you can't ask a guy to prove it unless you have got the cards to call. In other words, unless you have got a project and say, "We're ready to go with an improved project. Where is the money?"

As far as I see, we don't have any projects in Hawaii. There is a lot of talk, but we don't have any projects ready for that yet.

MR. HODGES: That can be approved.

MR.STEIN: That are approved.

MR. HODGES: That are approved.

MR. STEIN: And the problem is that we are sitting here--in other words, we have got this approved by the city of Honolulu, the State of Hawaii, the Federal Government, everyone stamped it,and we are sitting around saying, "O. K., fellows, now get up your dough and we will start letting the contracts and building." We are not at that stage. In other words, we are at the stage where everyone says they have got the money, and I have no reason to doubt it that they are going to produce the money, I really don't. But we haven't got that approved piece of paper to say, "O. K., fellows, we call your bluff."

Now, I really think, Mr. Hodges, in this business, until we get this kind of paper where we are going to say, "O. K., we are all ready to go, put in your money," you never can prove whether a guy is going to get his money on the barrelhead or not.

MR. HODGES: Well, what I am saying, in that case the Environmental Protection Agency should give a ruling as to whether or not they are going to waive the secondary requirements, No. 1, right?

MR. STEIN: I believe it should do that, yes, one way or the other.

MR. HODGES: Because if they don't waive, that is going to change the design drastically.

MR. STEIN: Not only the design, it might change the cost.

MR. HODGES: And the cost.

MR. STEIN: Drastically.

MR. HODGES: Perhaps we should start with that as a recommendation, you know, that the EPA get together again with the city and the county.

MR. STEIN: Again let me point out that the Sand Island project is outside our legal jurisdiction in the enforcement action.

MR. HODGES: Yes.

MR. STEIN: Otherwise, I can assure you we would be handling it.

MR. HODGES: Right, there are no oysters.

MR. STEIN: No oysters, right.

As I pointed out, there is another way for us to get in. If the State asks us in, we wouldn't have to have oysters.

MR. HODGES: Another thing, Mr. Stein, this is hearsay. But I understand that that $5.5 million that they are talking about that was for the Honouliuli plant, that was the discretionary funds from the Administrator; that these were arranged for by the previous former Environmental Protection Agency man here, Russ Freeman, as a sort of positive goad to the State of Hawaii for the past legislature to do what they said they were going to do; that that was essentially a sweetener provided by the Federal Government with the understanding that the legislature would come up with State financing plus advancing Federal money;and that they would get on with a specific project as a demonstration. Is that correct?

MR. STEIN: Well, I wouldn't quite put it that way. One of the factors was that the Governor indicated he would go before the legislature and push this. Now, again, the reason I recommended this project and asked that we get the $5.5 million was because I considered this so important, and I thought unless we got these discretionary funds and put them in we wouldn't meet this deadline. I thought we did give you a tight deadline and I thought that this was the thing to do.

Now, I would have to say that I used to have a job where I worked a lot more on the Hill than I do now. I don't do that now. Not in EPA, but when I worked for HEW in the water field and in the Interior Department for a short time, I used to handle legislation for the Department. I knew what my batting average was with the Congress, so I never was under the illusion that any executive could write a complete financing program and just whip it through a State legislature and get it. But I figured this would help.

Here is the difficulty in the time, and a problem I think that we are going to have with all kinds of financing. The notion here is that we got that $5.5 million out of reasonably current funds which was competing with a lot of projects. That was given or allocated to Hawaii for the Honouliuli project. The assumption is that if you say, "O.K., you have already made a determination for Honouliuli, let's not use it for that because we need 2 more years, let's put it in Sand Island," where you are sitting there as a Federal Administrator you say, "Just because we picked

Honouliuli as one of the top ones doesn't mean that Sand Island, just because it is in Hawaii, is right, and should be next, because Sand Island wasn't even on that list that we went for. There may be a project in Dubuque that we just cut out." Now, if you are sitting there and you also have as many senators from that State as you have from here, I guess, at least, and as many people, when you look at the list and you figure that we set aside 5.5 million bucks and then went out there and they told us that they are going to need 2 more years and they are not quite ready for the money but they would like for you to give it to another project in Hawaii, what do you do? Do you pick the next one on the list, the one that just got beat out, or do you leave that money in Hawaii? Just think about that a while and you will see the problem that the Administrator is going to have with something like this.

All right.

MR. HODGES: It was as a sweetener to encourage the governor and the legislature.

MR. STEIN: And the legislature and the locality and the city.

MR. HODGES: Right, and to determine early enough whether or not they have--

MR. STEIN: Whether they have come across and whether we shouldn't give it to another one on the list which may be in a completely different part of the country who is also asking for these funds.

MR. HODGES: Right.

MR. STEIN: All right.

MR. HODGES: I guess that is the sum of the comments. I really think that, you know, when you get it together, what they promised us is basically a 50 percent difference. As you say, things happen in a legislature.

MR. STEIN: Again let me just raise this because I want to give you the facts as we see them here. What is being suggested also is we put that project bid to a project where they want a substantial waiver of a condition, which has rarely been given, and they want a priority money to stimulate that waiver?

MR. HODGES: Yes, that is--

MR. STEIN: Do you understand?

MR. HODGES: I can figure it out.

MR. STEIN: O. K.

Are there any other questions?

If not, thank you.

MR. HODGES: Maybe Dr. Marland can clear it up, you know. Maybe he has something else to say.

MR. STEIN: Thank you.

Are there any other people who want to speak?

If not, I think we don't have any other speakers this afternoon, but we do have several people scheduled for tomorrow.

We will start tomorrow at 9:30 with the State Department of Agriculture and I think Mr. Lepine of the Harbors Division won't be able to be here until 11 and then we will have Mr. Richard Bell of Hawaiian Electric, the Coast Guard, and then Mr. Lepine. And if any of you have any bright ideas over the night, don't think that you are foreclosed. If you want to come back and speak, we will give you the opportunity, and if you want to come back and listen, you are welcome.

With that, we are recessed until 9:30 tomorrow.

(Whereupon, at 3:20 o'clock an adjournment was taken until 9:30 a.m. Tuesday, June 6, 1972.)

MORNING SESSION

TUESDAY, JUNE 6, 1972

9:30 o'clock

MR. STEIN: May we reconvene? This is a little more cozy this morning.

Dr. Stephen Lau, please.

DR. L. STEPHEN LAU
DIRECTOR, WATER RESOURCES RESEARCH CENTER
UNIVERSITY OF HAWAII
HONOLULU, HAWAII

DR. LAU: Mr. Chairman, ladies and gentlemen.

My name is Stephen Lau, Director of the Water Resources Research Center at the University of Hawaii. I am here to present a summary status report for the Mililani wastewater reclamation project.

The university faculty members of the project staff are also here. They are Dr. Philip Loh, professor and virologist, and Dr. Reginald Young and Dr. Gordon Dugan, professor, staff member, and Civil Engineer.

A funny thing happened to us at the conference yesterday. We were here half an hour ahead of the scheduled time to speak, but we discovered that the conference went into a recess. Thanks for the opportunity to speak first today.

MR. STEIN: We regret that. I am very sorry that we weren't here.

DR. LAU: Following the Hawaii State legislative request and the Oahu Water Quality Program recommendations, an investigation was designed 1), to determine the feasibility of utilizing water reclaimed from sewage for irrigation under Hawaiian conditions, and 2), to evaluate the probable effects of such reclaimed water on groundwater quality, particularly in terms of potential virus transmission and the long-term buildup of dissolved solids. Other water quality parameters as well as the effects of evapotranspiration will also be evaluated. The investigation has been funded as a joint project of the Board of Water Supply and the Division of Sewers, with the University of Hawaii's Water Resources Center designated as the agency responsible for the conduct of the research.

The research plan was to study the application of wastewater effluent resulting from different levels of waste treatment as well as the effect of seasonal cycles of rainfall, runoff, and percolation. Secondary treated effluent was to be studied during the first 3 years, followed by studies of primary and tertiary process effluents in subsequent years. Both the applied effluents and the resulting percolate would be monitored for chemical, physical, and biological quality changes.

Dr. L. S. Lau

The Central Oahu area, including and adjacent to the Mililani Sewage Treatment Plant, was selected for this investigation inasmuch as approximately 90 percent of Hawaii irrigated sugarcane is grown on the soil type located in the proximity of the sewage treatment plant.

We have some figures, Ray, you might want to distribute to the head table there, and also, Owen, you might point to where the site is.

(Figure 1 referred to follows:)

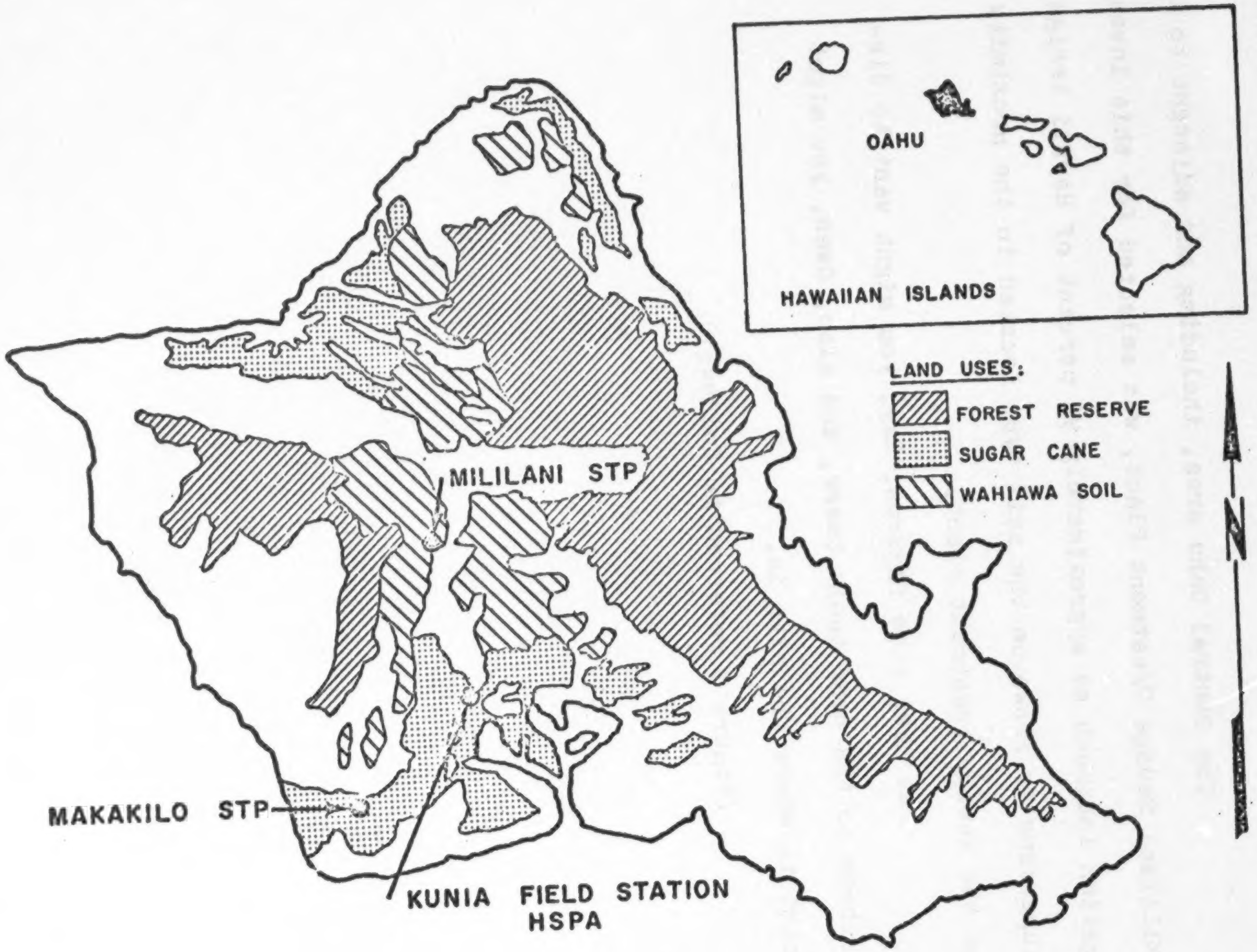

HAWAIIAN ISLANDS
OAHU
LAND USES:
▨ FOREST RESERVE
▨ SUGAR CANE
▨ WAHIAWA SOIL
N
MILILANI STP
MAKAKILO STP
KUNIA FIELD STATION
HSPA

FIGURE I: MAP OF OAHU SHOWING LAND USES AND PROJECT FIELD SITES.

Dr. L. S. Lau

The plant utilized the "Rapid Bloc" activated sludge process and has been in operation since 1969. The sewage is domestic and typical of the area and contains no known industrial wastes. The 12 acres of the plant grounds are sodded with Bermuda grass and receive about 50,000 gallons daily of chlorinated secondary effluent as irrigation water in rotation on different areas. The uniformity of ground cover and the ease of maintenance of the grass sod makes its water budget more readily measurable than that of crops such as sugarcane or pineapple.

The research efforts are being guided by an executive group headed by myself and a group including the Water Resources Research Center staff members, engineers from both the Board of Water Supply and Division of Sewers, city and county of Honolulu, and engineers and agronomists from the Hawaii Sugar Planters' Association, HSPA, and the Oahu Sugar Company, OSC. There has been a division of work responsibilities, with University being primarily responsible for the work in three major areas:

Soils and irrigation. Dr. Ekern, who cannot be here today, is responsible for heading that.

Virology, viral studies, Dr. Loh.

And water quality analyses, Dr. Young.

Additional laboratory support is being provided by the Division of Sewers for chemical analyses and by the Board of Water Supply for bacteriological analyses. The HSPA and OSC are assisting in the field studies of irrigation application, plant uptake, and effects on growing sugarcane in OSC fields adjacent to the treatment plant.

The group meets on a regular basis, at least once a month, to review and discuss progress and conduct detailed planning and coordination.

The research results to date can best be described according to the three work areas. First, soil and irrigation. The stable structure of the soil gives a very high initial infiltration rate of several inches per hour. However, the subsoil appears to have lower permeability. At the plant site, an area near the treatment headworks has been isolated for research use. A large stainless steel lysimeter has been installed in a manhole-lined pit.

Turn it around so Mr. Stein can see it. Thank you. Maybe move it a little bit closer.

MR. STEIN: That is all right.

DR. LAU: As I said, a large stainless steel lysimeter has been installed in a manhole-lined pit. The lysimeter contains a 5-foot depth of soil with turf covering its surface. It is supported by a weight-measuring and recording system. Percolate passing through the lysimeter soil is pumped out on a regular basis for characterization.

A trench, the second item of this system, was cut adjacent to the lysimeter and six 2-foot square stainless steel pans were inserted at different depths, up to 5 feet, underneath intact subsoil to collect percolate.

The third component of this system is ceramic point samplers. Thirty-five of them have been inserted underneath the sod and sugarcane field at depths up to 4 feet and within the adjacent cane field in furrow and ridge areas to a depth of 12 inches into the subsoil.

Still a fourth component of this system is the double-tube permeameters for in-situ measurements of permeability. Thirteen of these permeameters have been installed.

Irrigation and growth effects tests have begun at an OSC field, with effluent being transported to the field by the Division of Sewers aboard a truck. This phase has just begun and has no results available at this date.

Monitoring of the quality of the influent raw waste and chlorinated effluent at the sewage treatment plant over the past several months shows that the plant efficiency has been over 90 percent reduction in both BOD and suspended solids. The effluent generally contains little or no coliform bacteria.

Composite samples of the effluent have been analyzed for chlorinated pesticides and certain heavy metals have also been included, the concentration so far found in parts per trillion and billion respectively.

Biweekly sampling of the lysimeter percolate has begun since January 1972, roughly 4 months ago. Percolate samples of volume for characterization have been obtained from only the two shallow pans. Under forced artificial conditions, percolate has been recovered from all the deeper pans, but only in very small volumes.

We come to the second major part of the study.

In the early part of the research project, a major effort was expended in establishing the virus laboratory at the University of Hawaii. Considerable time and expense were put into organizing the virus laboratory for water quality work, the first facility of its kind in the State. The laboratory required unique equipment and supplies for isolation and identification of the viruses, including maintenance of tissue culture lines necessary for future analysis. The necessary incubators, glassware, and biological media had to be ordered and shipped from mainland supply houses. Despite the shipping strike, and we had a long one, which did pose a serious logistic handicap, the majority of the supplies and equipment necessary for the virology work is now on hand and the laboratory is operative.

After a lengthy search, Dr. Fujioka joined the project as virologist in January 1972. Mr. Robert Hayashi, Chief Microbiologist for the Board of Water Supply, has been spending several days a week in the laboratory to assist and to acquire the experience for subsequent Board of Water Supply testing routine.

During the last few months the isolation techniques and cell systems selected for this project have been undergoing modification and rigorous evaluation on the basis of local conditions and usage. The Environmental Protection Agency water hygiene office has been in communication with Dr. Loh and Dr. Fujioka and has agreed to provide technical advice to the project as needed on the separation and recovery step of the work.

Samples from the test site at Mililani are currently being received and examined, but limited preliminary data is available only on the sewage.

The work plan for the coming year involves several areas of emphasis. The basic water quality and biological monitoring of the Mililani effluent and all percolate samples will continue. The irrigation of the mature cane will continue up to the time of harvest. Percolation studies will also be continued at the plant site in order to define the turf water budget and the path of percolate movement in the subsoil.

Dr. L. S. Lau

Research to be initiated in the coming year will include: Irrigation of a field of new cane with effluent. The field site has been selected, the necessary pump and pipes are being purchased to transport the effluent to the site, and the irrigation should begin in midsummer. The Board of Water Supply has agreed to assist in geo-hydrological investigations of the area adjacent to the field study sites in order to better define, on an areal basis, the movement of the percolate in the subsurface stratum. Controlled laboratory studies of infiltration in the subsoil may also be undertaken along with studies of the effectiveness of varying levels of chlorination on the Mililani effluent for virus removal and control.

A summary.

In brief, most project studies are under way. The amount of data is not adequate to base conclusions. Results to date show that there is little movement of biodegradable organic materials through the irrigated turf at Mililani. The possible passage of viruses with the percolate is about to be assayed. Controlled tests of effluent for sugarcane irrigation has just begun and will require a full growth cycle of 18 to 24 months for completion.

Despite the delayed start of the project until last August, the accomplishments to date have been on schedule with the original work plan.

They have the schedule.

(Table 1 referred to follows:)

TABLE 1

Water Recycling from Sewage Irrigation Project
Work Phase Time Table

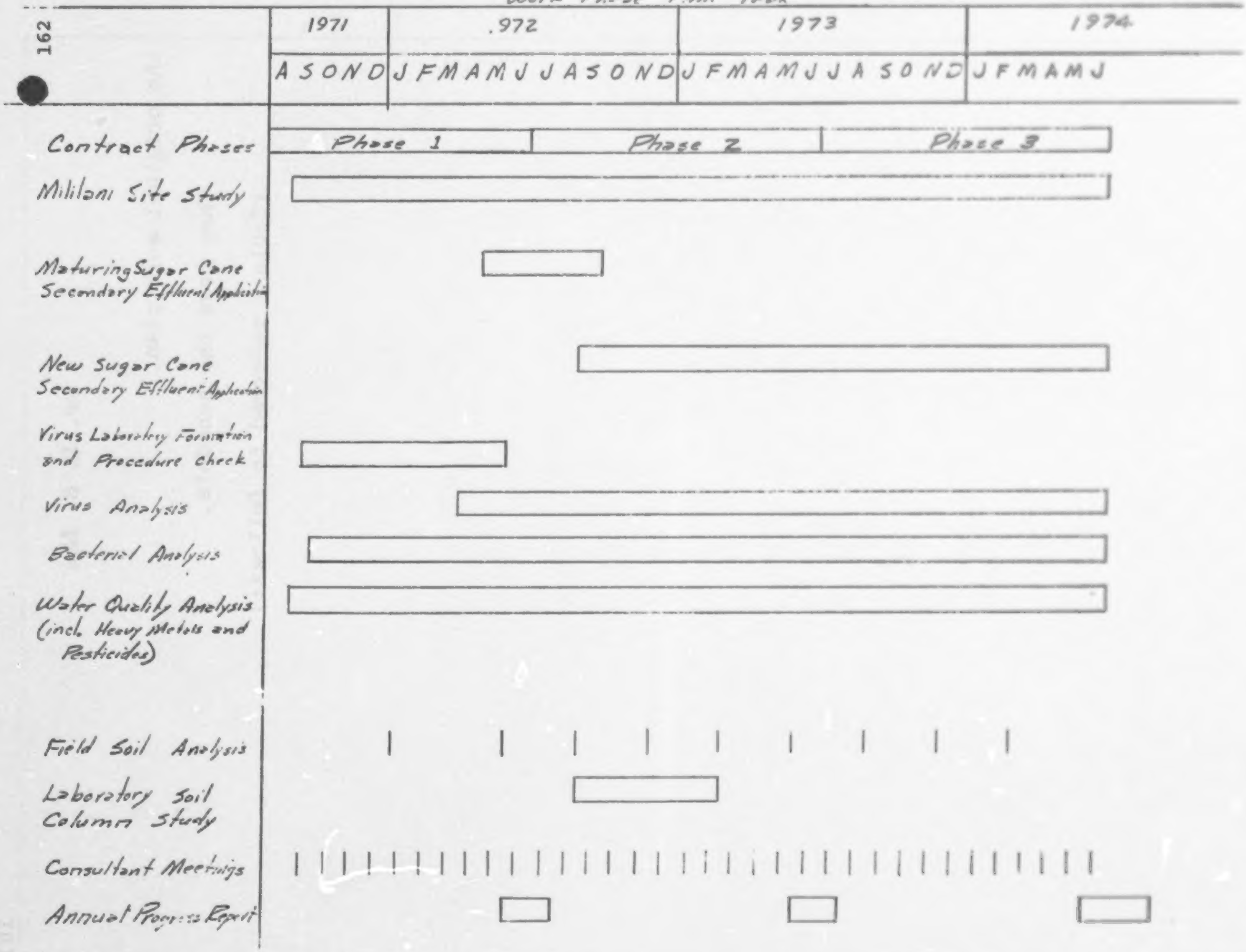
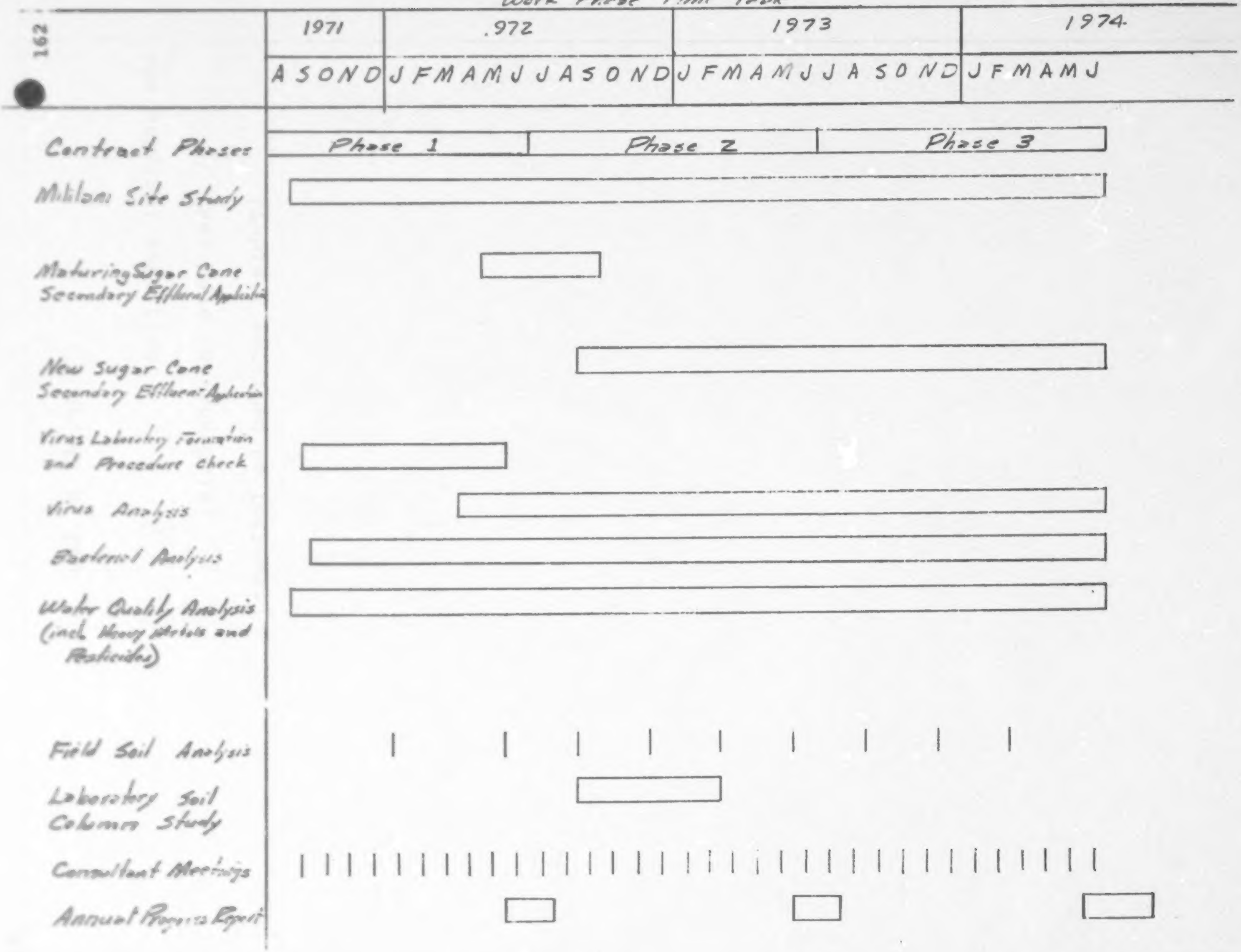


TABLE 2

Water Recycling from Sewage Irrigation Project
Work Phase Time Table



The project has received considerable attention in both the scientific and general community. A paper was presented at the Annual Conference of the Water Pollution Control Federation last October. The project was also the subject of the regular ETV program "UH Today" this spring. As the project objectives are met and the results made available by the control group and supporting agencies, the information will be the subject of further dissemination to scientific and technical groups and the general public.

Thank you very much.

MR. STEIN: Thank you, Dr. Lau.

Are there any comments or questions?

MR. O'CONNELL: Just for the record, the results of this study will influence the ultimate disposal scheme for the Central Oahu project, correct?

DR. LAU: That is what I understood.

MR. O'CONNELL: Yes. And I notice you have an annual progress report due in about a month. Is that still scheduled to--

DR. LAU: This is on schedule.

MR. STEIN: Well, you have some preliminary stuff, analyses on the heavy metals and pesticides. Do you have any indication of what you are finding on bacterial analyses and viruses yet or is it still too early to say?

DR. LAU: The bacteria part--or the viral part, as stated, is just beginning. The laboratory is now completely operative and the bacteria part is also being assayed.

Reg, do you have any statement?

The answer is there is not much coming through in terms of coliforms.

MR. STEIN: Coliforms.

DR. LAU: Right.

MR. STEIN: I think we would expect that.

DR. LAU: Right.

MR. STEIN: And I would guess, I think the items which might be looked at are some of these metals, because we obviously are going to be worried even if a very small quantity comes through, particularly the metals like mercury and material of that kind. And of course the key answer, I guess this is going to take a long time, is what happens to the viruses, and I think a project such as you have set up can really make a contribution on that because that is one area where we just don't have very much information here or anywhere else. With a lot of good luck, I think you may be able to filter out the bacteria so there will be no harm, and if you don't have very specialized problems you may not get a heavy metal problem.

But on the viruses, this is still an open question that really no one knows the answer to. This is what raises the problem.

DR. LAU: That is our intent.

MR. STEIN: Thank you very much. I think this is very illuminating. I am sure that projects like this have to be done if we are going to demonstrate the use of wastes for land irrigation, because I don't think we can speculate about those and we have to make the project applicable to local situations. I don't think you can take a study necessarily that is done in Minnesota or Louisiana and say it is going to work here. You are just going to have to really do your own, and I am very happy to see that you people are proceeding that way.

Thank you very much.

May we have the State Department of Land and Natural Resources.

KAZUO HAYASHIDA

STATE DEPARTMENT OF LAND & NATURAL RESOURCES
DIVISION OF WATER & LAND DEVELOPMENT
HONOLULU, HAWAII

MR. HAYASHIDA: Thank you very much. I am Kazuo Hayashida, with the State Department of Land and Natural Resources. I am here to report on Recommendation 15.

Recommendation 15 states that the State Department of Agriculture shall, in cooperation with the Oahu Soil and Water Conservation District, by July 1, 1972, develop a plan from major studies of soil erosion from undeveloped lands in the Pearl Harbor watershed. The study is to be completed not later than July 1, 1974. The plan is to be acceptable to the State Department of Health and the Environmental Protection Agency.

Inasmuch as our department provides administrative support to the soil and water conservation districts and works closely with them, the Department of Agriculture has asked our department to assume the primary role of coordination and reporting.

Earlier this year representatives of the U. S. Department of Agriculture, the Oahu Soil and Water Conservation

Districts, and our department met to discuss Recommendation 15. We learned that the soil erosion study for this watershed could be accomplished under the USDA Type IV River Basin Study program and our department made a request that the USDA conduct a river basin study for the island of Oahu. Furthermore, we asked that they give top priority to the preparation of an interim report for the study of soil erosion control of undeveloped lands in the Pearl Harbor watershed. The study will be conducted by the USDA Field Advisory Oommittee, which is composed of the Soil Conservation Service, the Economic Research Service, and the Forest Service, with the Soil Conservation Service serving as the lead agency.

At this meeting we set what we thought were the limits of the area to be studied by our group. The area includes all lands in the Pearl Harbor watershed except lands belonging to Oahu Sugar Company, Dole,and DelMonte Corporation, the urban lands controlled by the city and county of Honolulu, and lands controlled by the State Department of Transportation.

Last month a draft plan for the study of soil erosion, sedimentation, land treatment in the Pearl Harbor watershed was prepared and submitted to Dr. Marland for review by the office of Environmental Quality Control, the EPA and the State Department of Health. We received a reply from Dr.

Marland stating that the plan is satisfactory and will meet the requirements of Recommendation 15. Currently the plan is being finalized for submission to Dr. Marland before the deadline of June 30, 1972.

Generally the plan is as follows:

1) Locate, investigate and classify soil erosion areas by type, cause and degree of severity.

2) Evaluate the volume of sediment being transported into Pearl Harbor from undeveloped lands in the watershed.

3) Formulate projects to reduce erosion and sedimentation damages through installation of land treatment practices, land use regulation or structural measures and to recommend priority for project installation.

4) Identify programs and agencies to implement the corrective and preventive measures for soil erosion and sediment control. And

5) To coordinate our plans with the plans of the Oahu Sugar Company, Dole, and DelMonte Corporation, the Transportation Department and the city and county of Honolulu.

The elimination of sediment from undeveloped lands in the Pearl Harbor watershed will require the active cooperation of many agencies in developing a project plan and implementing the project measure. Our department, the Oahu Soil and

Water Conservation Districts, and the Soil Conservation Service will provide the leadership in coordinating the programs of the many agencies to arrive at a workable plan which is acceptable to all concerned.

Thank you.

MR. STEIN: Thank you. Are there any comments or questions?

MR. O'CONNELL: You say top priority is being given to an interim report on the Pearl Harbor watershed. Do you have a target date for that?

MR. HAYASHIDA: We are committed to a target date of July 1, 1974, on that study. The plan of study has been prepared and will be ready by June 30 of this year.

MR. O'CONNELL: Thank you.

MR. STEIN: Are there any other comments or questions?

MR. O'CONNELL: It sounds to me like they have the situation well in hand and are--

MR. STEIN: Yes.

MR. O'CONNELL: --off to a good start on that.

MR. STEIN: Yes. You know, when we set up these recommendations, as we did at the conference, and then later when you come to a progress meeting, some people still tell you what they are going to do and other people tell you what they are doing, and I think in your report you are on schedule with Recommendation 15 and you are proceeding and doing it and you are going to meet the time schedule. I would like to thank you very much for that report.

Thank you.

Mr. Richard Bell, Hawaiian Electric.

RICHARD E. BELL
MANAGER, ENVIRONMENTAL DEPARTMENT
HAWAIIAN ELECTRIC COMPANY, INC.
HONOLULU, HAWAII

MR. BELL: Mr. Chairman, members of the hearing committee, ladies and gentlemen.

My name is Richard E. Bell, Manager, Environmental Department, Hawaiian Electric Company, Inc. I am here in response to an invitation from the State of Hawaii Department of Health to present evidence or information relative to Recommendation Number 17 of the Federal-State Pearl Harbor Enforcement Conference held in September 1971.

Recommendation 17 stated that the State Department of Health shall identify and prescribe control requirements on the thermal discharges to Pearl Harbor by Hawaiian Electric Company so as to achieve compliance with the thermal water quality standards by December 31, 1974.

In late September, the Department of Health requested Hawaiian Electric to engage consultants and develop the Company's position relative to applicable water pollution control technology at Waiau, the site of Hawaiian Electric's power station located on Pearl Harbor's East Loch.

On September 27, 1971, Hawaiian Electric engaged the firm of B-K Dynamics, Inc., Environmental Services Division, to conduct a marine environmental study of the area of East Loch off the Waiau Power Plant. The purpose of this study was to make and document field studies of the existing physical, chemical, geological, and biological oceanography of the area in order to determine the nature and extent of the environmental impact of the thermal discharge from the Waiau Power Plant into East Loch.

On September 27, 1971, Hawaiian Electric engaged Bechtel Corporation to conduct a study of the development and evaluation of alternative cooling methods applicable to the condenser discharge water at the Waiau Power Plant.

The existence of and progress on these efforts was reported by letter dated December 28, 1971, to Dr. Quisenberry, Mr. Stein, and Mr. O'Connell.

The marine environmental study and the alternative cooling method study were completed in February of this year. The reports resulting from these studies and a final draft of an Environmental Impact Statement for Waiau were delivered to the Department of Health on February 29, 1972.

On April 24, 1972, the foregoing reports plus copies of testimony were introduced as evidence at a Department of Health hearing held on that date to consider Hawaiian Electric's application for a Zone of Mixing at Waiau.

On May 24, 1972, the Department of Health informed the Hawaiian Electric Company that a third hearing on its Zone of Mixing would be held on or after November 30, 1972. The Director of the Department of Health expressed concern regarding the concentration of the thermal effects under the present discharge pattern and pointed out that the testimony presented indicated a number of alternatives to better distribute this thermal effect. The Company was requested prior to November 30, 1972, to:

1) Conduct a study and supply a report to the Department of Health which will indicate the possible solutions to the problems of high temperature discharges from Units Nos. 3 and 4. The addition of dilution water to decrease the temperature can be considered as a viable alternative.

2) Conduct a study and supply a report to the

Department of Health which explores the use of a diffusion system for solution of the problems of high temperature discharge from Units Nos. 5, 6, 7, and 8. This study should include an actual diffusion model of the existing and proposed thermal plume and the probable effect of the newly dissipated heat on marine life in Pearl Harbor.

On May 25, 1972, Hawaiian Electric contacted its consultant to commence contractual arrangements for these foregoing studies and will meet with the Department of Health following these meetings to discuss the various possible alternatives.

I will now briefly summarize the content of the reports presented at the aforementioned Public Hearing held on April 24, 1972. Several copies of the reports and pertinent testimony have been provided the Department of Health.

The Marine Environmental Report, Physical Oceanography Section.

The generation of electricity on large scales physically alters the environment. Significant changes in the following physical parameters in Pearl Harbor due to the Waiau Power Plant operation seemed at least remotely possible and an evaluation program was undertaken on:

Sedimentation;

Turbidity;

Temperature;

Salinity;

Velocity;

Flushing; and

Oxygen.

This evaluation program indicated that the only significant effect of the Waiau Plant on Pearl Harbor is thermal. Since the discharge is buoyant, the effect on the bottom is negligible except within 1,000 feet of the discharge point. The 1.5°F isotherm of excess temperature was found to extend from McGrew Point to Ford Island to the south side of the Pearl City peninsula.

The Marine Biology Section.

Three biological studies were carried out to determine the effect of the thermal discharge on plankton, the benthic community, and on the fishes in the region. Results of the studies revealed that while the plankton suffers some entrainment damage, it was doubtful that the plant affects the number of planktonic organisms in Pearl Harbor. The study of the bottom was inconclusive. The large amount of soft sediment in Upper East Loch undoubtedly creates an inhospitable environment for the development of a rich benthos. Based on a survey of the fouling community on the sheet piling extending into East Loch from the Waiau Plant, it was apparent that the effect of the discharge was well within 1,300 feet of the discharge point.

While time precluded an extensive survey of the fishes of upper East Loch, it was apparent that the condenser discharge attracts fish.

In summary, the marine biological effects of the effluent heat from Waiau Power Plant on Pearl Harbor are not discernible from the effects of the other effluents which enter the Loch. In the immediate vicinity of the plant, however, effects can be seen in the fouling community, on the entrained plankton, and on the apparent attraction of fishes.

Now the alternative cooling methods.

The alternative methods of reducing the environmental impact of the effluent water that were examined were:

1) Refrigeration.
2) Dry cooling towers.
3) Freshwater wet cooling towers.
4) Salt water wet cooling towers.
5) Cooling ponds.
6) Spray canals.
7) Ocean outfall.

8) Once-through cooling with diffusers.

9) Once-through cooling with dilution.

10) Once-through cooling with surface jet.

For a variety of carefully documented reasons appearing in the reports, including technical, economic and environmental, the first seven alternatives were found to be infeasible, in our judgment, as well as that of our consultants. The last three alternatives, various configurations of once-through cooling schemes, ranged in estimated cost from $1.5 million to $5.2 million. Each alternative impacted on the environment to differing degrees, depending upon the amount of dredging required and the configuration of the predicted excess temperature isotherms. In every case, however, the 1.5°F isotherm of excess temperature was unchanged from what it is today.

It was the judgment of the Hawaiian Electric Company that the cost/ benefit evaluation, with all elements considered, did not suggest that any of the alternatives were significantly better than the current method of discharge.

The Company explored the feasibility of the beneficial use of the discharge water and retained the Oceanic Institute to study the feasibility of aquaculture at the Waiau site using the condenser discharge water. The study concluded that the location of the plant did not justify a meaningful program in aquaculture.

Early in December the company instituted a program at Waiau to monitor the environmental parameters of East Loch. This program includes:

1) Cooperative study with the State of Hawaii, Department of Fish and Game, to examine the effects of the thermal discharge on oyster growth.

2) Monthly examinations of the Waiau sheet piling and artificial substrates attached to it in order to document the nature and extent of the fouling community.

3) Studies on the quantitative effects of plankton entrainment in the Waiau cooling water system under various oceanographic and operating conditions.

4) Monthly monitoring of the effluent thermal field and temperature, salinity and dissolved oxygen under different oceanographic and operating conditions.

5) Cooperative program with the U. S. Navy to determine sedimentation rates.

Now our conclusion.

It was the conclusion of Hawaiian Electric, and so stated in testimony at the Zone of Mixing Hearing of April 24, 1972, that it is not possible to separate the biological effect of the thermal plume from the Waiau Power Plant from the effects resulting from the numerous other activities being conducted in Pearl Harbor except in the immediate vicinity of the plant. It is clear that these thermal discharges raise the surface temperature of East Loch waters, but the temperature differences out past the sheet pilings are actually within the range of variation resulting from normal weather and meteorological changes. It would appear that the dominant environmental impact upon Pearl Harbor is the relatively rapid rate of sedimentation, and that other effects have only a highly localized impact upon the overall ecosystem of Pearl Harbor.

There are a number of discharge systems available that could feasibly be constructed at Waiau. Each of these would have a certain adverse impact upon a part of the environment during construction, since the present state would be disturbed. Freshwater cooling towers would not directly impact upon the marine environment during construction, although the residuals of such land-based construction might eventually enter the East Loch. The impact of constructing any other alternative would be a temporary disruption of the marine environment, felt principally in terms of increased noise and turbidity, as well as a potential short-term dislocation of prevailing ecosystem patterns. Dredging will create turbidity which will have an adverse effect upon the nekton, such as nehu and papio and pelagic fish, as well as creating a sediment disposal problem.

It is likely that the short-term environmental effects of the construction activity will be approximately proportional to the period involved. Hence, the ocean outfall has the greatest impact, since it has the longest construction period. All other feasible alternatives have similar construction periods and dredging requirements, with the exception of the cooling pond, which has much greater dredging and piling requirements. Construction effects for all alternatives will be adverse but short-lived.

During the operational lifetime of Waiau Units 1 through 8, only the freshwater cooling towers, ocean outfall, and spray canal systems would reduce the actual amount of heat being discharged to East Loch. The remaining schemes differ only in the degree to which the heat is distributed and dissipated.

It is also significant to note that the entrainment of organisms in the intake structures is not appreciably reduced by any of the once-through schemes, since the same quantity of water is required for condensing the steam, except that the dilution scheme actually doubles this effect by passing an additional volume of water through the pumps.

The economic penalties imposed by the 10 alternative systems ranged from $1.5 million to $25 million, with the benefits ranging from a slight reduction in area of the surface

1.5°F isotherm of excess temperature to its total elimination. Since existing conditions in the East Loch suggest that an equilibrium condition has been reached, impact of construction and operation of a dramatically different discharge system is likely to upset this equilibrium without any corresponding benefit.

Considering both the costs and benefits of the alternatives developed by our consultants, the current condenser cooling water system is, in our judgment, the preferred one for Waiau at this time, and indeed meets all of the requirements for the establishment of a zone of mixing.

MR. STEIN: Thank you.

Are there any comments?

MR. O'CONNELL: The report you refer to was completed in February by your consultants?

MR. BELL: Yes.

MR. O'CONNELL: You say this was submitted to the Health Department?

MR. BELL: That is correct.

MR. O'CONNELL: You didn't submit a copy to EPA?

MR. BELL: I believe the Health Department forwarded a copy to Dr. Marland's office. I am not aware of one being given directly to the EPA.

MR. STEIN: Are there any other questions or comments?

MR. O'CONNELL: I notice you say that the alternates involving dilution and diffusion that have cost from $1.5 to $5 million--

MR. BELL: Yes, that is correct.

MR. O'CONNELL: --had no effect at all on the size of the area enclosed by the 1.5^{o} isotherm?

MR. BELL: That is correct. The difference is in the isotherms at higher temperature.

MR. O'CONNELL: Oh, I see. What is the existing area enclosed by that isotherm, do you have any idea?

MR. BELL: It is a large area. If we had a map I could show you. It's a number in, oh, perhaps 800,000 acres or perhaps more. I just don't have an idea.

MR. STEIN: Any other comments or questions?

DR. MINETTE: No questions.

MR. STEIN: That was a very interesting statement. I have a few questions here.

I am familiar with the Federal law and I have read the Hawaiian State law. Nowhere do I see that in cleaning up waters that we apply the cost/benefit ratio theory. We didn't ask the city to do that; we don't ask the military installations to do it. How come that the company felt it incumbent upon itself to apply a cost/benefit ratio which you set up to evaluate what the cost/benefit would be? The costs are to the company and the benefits are for the public. How do you equate that?

MR. BELL: It is a difficult task.

MR. STEIN: But how come you used that concept?

MR. BELL: It is a concept that we use continuously in the electric utility business.

MR. STEIN: I know, but we don't use it in the pollution business. The Congress has considered that. Representatives of a lot of industries, perhaps including yours, have suggested this approach to the Congress and they have never adopted it. And since the Congress rejected this cost/benefit technique of evaluating whether we go through a pollution concept, how come when you are looking at a project that you are going to do that you use it?

MR. BELL: Well, the best reason I can give you is that that is a normal method for evaluating complex engineering problems in the utility business, and I at the moment see no reason why we should not have used it.

MR. STEIN: You don't? Well, I just explained to you. No State has adopted this at all among the 50 States and the

Congress hasn't adopted it. If the cost/benefit is going to be used as any device, as it is in water resources, generally a Federal Agency applies that cost/benefit. If we were to allow a private industry to use cost/benefit and set up the rules, I could predict the answer you have here. Looking at 10 alternatives, the three that you found to be feasible at all were all once-through cooling, which was by far the cheapest.

By the way, I am not deprecating what you have done, but I think the answer is very, very clear if an industry does that. I think it is one thing for the Corps of Engineers or the Bureau of Reclamation to apply a cost/benefit analysis based on criteria established by the Congress, but again, if any private company would apply a cost/benefit analysis, I think you would have to expect the results which you gave us. And I am just a little surprised that we get into this as a justification.

Well, with the West Loch let me ask you this:

According to that green book that is put out by the National Technical Committee, they have said in an estuary of that kind or an embayment that waters, as far as I know, shouldn't get above 1.5° in the summertime and possibly 4.0° in the winter. If you would apply that to Hawaii this would probably mean 1.5°. Now, how much of the water in an area are you going to raise more than 1.5°?

MR. BELL: It would depend on which of the various alternatives that we would use, of course.

MR. STEIN: Yes. Well, why don't you give us a range.

MR. BELL: Let me check the technical report and I will give you a guess as to what we project as probable, all right?

MR. STEIN: O. K.

MR. BELL: Would you like the largest one or the smallest one?

MR. STEIN: Well, give us both, so we can get the idea.

MR. BELL: All right.

Once-through cooling with surface jets, the 7.0° isotherm is about 200 feet long and roughly 20 feet wide. It is an elliptical shape. All of these are the elliptical shape.

MR. STEIN: Yes.

MR. BELL: A 3.5° isotherm would be about 800 feet long and about 400 feet wide, shaped like--

MR. STEIN: Let's go down to 1.5°. How long would that be?

MR. BELL: Well, 1.5° isotherm, as I suggested in my testimony, is the same for all of the once-through cooling systems and that one stretches from McGrew

Point to Ford Island to the Pearl City peninsula, and that includes--

MR. STEIN: O. K. Now, how much would that be, how many acres, about?

MR. BELL: It is essentially the major portion of East Loch, and if someone from the Navy can tell me how big East Loch is, I will give you a guess.

MR. STEIN: No, I think that you-- In other words, if you are going to raise that 1.5° and the recommendation--and I think we would have to call upon our biologists for that--is to keep it below a 1.5° rise, then the suggestion is that we may be using the major portion of East Loch as a cooling lagoon for Hawaiian Electric and maybe that is the way we should go. I don't know what--

MR. BELL: That would certainly be our recommendation.

MR. STEIN: I understand that.

MR. BELL: I pointed out also in my testimony that the normal temperature fluctuations in that body of water are 1.5°.

MR. STEIN: I recognize all the problems on the temperature fluctuations and this, but the question here is, if you go to the once-through cooling operation, presumably you have ruled out that dilution one too, once-through cooling with dilution, or have you?

MR. BELL: Well, it was one of the alternatives that I reported on.

MR. STEIN: That you are still considering?

MR. BELL: Well, we can consider it because it does indeed reduce the--

MR. STEIN: I know, but are you still considering that as a viable method in your proposals in discussion with the State?

MR. BELL: I believe you can say we are still considering it, yes.

MR. STEIN: You are considering all three, diffusers, dilution and surface jets?

MR. BELL: Yes, I think that is a safe statement.

MR. STEIN: And you have eliminated all the others?

MR. BELL: Well, the reason I am qualifying this is that the first study is complete, while the second study the State has asked us to undertake is just getting off the ground. The second study will consider the alternatives. Again exactly how many of them will be dependent upon the structure of that study.

MR. STEIN: Well, sir, let me suggest again that we are going to have to issue permits, Federal permits, for a discharge of certainly this plant discharging into a navigable water, and my recommendation is that you might want to get in touch with the people who are handling the Federal permit program to be sure that your once-through cooling with diffusers, dilution or a surface jet will meet the requirements of that program, because if not, we very well may have a problem in the very near future on this. So I--

MR. BELL: Who are these people who are in touch with our engineers?

MR. STEIN: I suggest you get in touch with Mr. Seeley, because before this goes too far, and again looking for a solution to this, I think it would be in the interest of Hawaiian Electric, the State and us not to have you go off on a project or think you have a solution to a problem where within, oh, a month or 2 months or 3 months from now when you come up for the permit you can't do it.

Now, offhand, I would say, and I would suggest as a start, you might look, because the region is in San Francisco, at what they are doing in California and the notion of whether what you are proposing in an embayment would be legal in California, whether they would issue a permit on that. I leave it up to you to look at that, and that might give you a clue as to whether you could proceed with this or not. I make this as a suggestion. Offhand I would check this out really very carefully before moving on this, because, as I recall the California restrictions, if you discharge into the open ocean past a certain point you may be all right, but there are pretty tight restrictions on discharges into embayments like the East Loch, particularly since you have some shellfish there.

But in dealing with the biota of the area, I am not sure that I see, so far, an essential difference between the requirements we are going to ask there and here. For example, some of the most crucial areas we have are in the tropical or subtropical areas. We have been very tight with Florida Power & Light, on Biscayne Bay, allowing them only to discharge not more than 90° and cutting back the rise very markedly, and they have had to go to a tremendous series of lagoons there in order to achieve it. They just couldn't handle this through once-through cooling.

Now, I am making no suggestions here, but it seems to me that we have waters of the same type and temperature, and I would certainly check with our people to see how rigid these requirements are going to be so we can all get, hopefully, on the same wave length and move forward and if there is a disagreement we can begin approaching that without any lost motion.

MR. BELL: Well, yes. And one of our alternatives was a pond, which would be a lagoon.

MR. STEIN: Well, is that an alternative that you are considering?

MR. BELL: Yes, sir.

MR. STEIN: Well, I don't know what your capacity of the plant is here, but at least down in Florida where they have had that, that has taken quite a few acres.

MR. BELL: We need a 400-acre pond.

MR. STEIN: Well, again I am not sure, but I think that cooling pond down in southern Florida is more like 4,000 acres.

MR. BELL: Yes, a much larger plant.

MR. STEIN: That is right. And they may have a larger capacity. But the point is, if you are going to pond cooling, we all found to our dismay that took one heck of a lot of land to get that.

All right. Are there any other questions?

MR. O'CONNELL: Yes, I might mention in connection with the Federal permit program, the policy of the Agency as recently stated in an address by Assistant Administrator Quarles to the Edison Institute last May, you may have heard about that, as far as existing thermal power discharges are concerned our requirements are based pretty much on an adequate demonstration of the absence of significant damage occurring; the biological report which you referred to would be a key factor in determining whether or not that was an adequate demonstration. So I would strongly urge that you supply that to EPA for its consideration in review of your permit application as well as to the State, and the determination would have to be made as to whether or not this provides an adequate demonstration.

MR. BELL: Yes.

MR. O'CONNELL: I wonder if in this work that you had compared--is it East Loch that we are talking about?--East Loch to, say, Middle Loch as a control to try to determine whether or not any significant differences attributable to the cooling water discharged were apparent?

MR. BELL: No, we did not.

MR. O'CONNELL: I can see how it would be very difficult right within the area of influence to try to find out what that influence was, and if we have an opportunity to have some kind of a reasonable control that you can compare it to, it would seem to me that this ought to be used. But we would like very much to see your biological studies.

MR. BELL: Fine.

MR. STEIN: Are there any other comments or questions?

If not, thank you very much, Mr. Bell.

May we have the U. S. Coast Guard.

Let's have a recess to give the Coast Guard a chance to set up.

(RECESS)

MR. STEIN: May we reconvene.

Call on the United States Coast Guard.

WALLACE DUNG
UNITED STATES COAST GUARD
HONOLULU, HAWAII

MR. DUNG: My name is Wallace Dung. I am speaking on behalf of the 14th Coast Guard District, Honolulu.

Mr. Chairman, conferees and ladies and gentlemen.

In keeping with the objective of this meeting, which is a concern for the pollution of Pearl Harbor and its tributaries, I would like to limit the scope of my presentation to the erosion control aspects of the Coast Guard's FY 1972 family housing construction project at Red Hill, which is located within the Pearl Harbor Basin. I realize that there may be some interest in other facets of the project such as planning considerations, building features, and so forth, but time will not permit me nor will it be appropriate for me to go into a discussion of other than the erosion control features of our project.

However, I do want to assure all concerned that the Coast Guard has taken preservation and enhancement of the environment into consideration during the planning and design stages of this project as is indicated by the cluster concept of our site layout, which my colleague is pointing out in back of you. This cluster concept will allow us to have common green areas and an abundance of open space. We also provide generous landscaping, taking into consideration the preservation of the existing trees at the site and planning for poincianas throughout the site. We are providing recreational facilities such as bike paths, picnic areas, and tot lots. We are providing a green belt or buffer zone between the housing site and the heavily traveled Moanalua Freeway, and also we are locating all of our utilities underground, which will free the site from visual pollution.

In 1968 the Coast Guard constructed 164 units of family housing under Phase I of a two-phase housing program at a site located north of the Moanalua Highway at approximately the top of Red Hill. Our present project is a follow-on Phase

II program for the construction of an additional 120 units of family housing, of which 96 are enlisted men units and 24 are officer units. The full military contract was recently awarded to Del Webb Corporation in late April of 1972 with a 455 calendar-day completion time, putting the contract completion date sometime in October 1973 barring unforeseen delays such as shipping or labor strikes. Our contractor has just started clearing and grubbing operations at the site last week.

For the benefit of our projector, I would like to discuss briefly our site conditions. Our Phase II family housing site has an area of approximately 31 acres and is located south, or Makai, of the new Moanalua Freeway currently under construction and slightly west of our Phase I housing site which is on the opposite side of the highway. The existing Navy housing at Red Hill consisting of about 10 units is to the east and the new Halawa Interchange is to the west. The existing Moanalua Highway and soon to be new Moanalua Freeway generally borders the north boundary and a natural watercourse runs through the upper portion of our site and flows in a southwest direction off the site.

The site may be described as being elongated in the east to west direction, with a length of approximately 2,000 feet and the width of approximately 600 to 800 feet. The terrain slopes downward to the west towards Halawa Interchange, dropping about 130 feet in elevation from east to west, resulting in an average ground slope of approximately 7 percent. The area is presently covered with heavy vegetation consisting of weeds, Haole Koa, and other natural growth indigenous to the area.

The housing site does constitute a part of the Pearl Harbor basin in that the terrain slopes in the direction of Halawa Stream, including the watercourse which traverses the southwest boundary of the site. However, in comparison to the grading work currently under way on a part of the Halawa Interchange and the Moanalua Freeway construction, the grading operations associated with the Coast Guard family housing site will be on a much smaller scale from the standpoint of comparative areas involved.

In any event, our contract specifications does contain a temporary water pollution control clause which requires that the contractor take reasonable and practicable steps during construction to control water pollution. In this regard, the contractor was required to submit an erosion control plan, which he has done and which has been approved by the Coast Guard. This plan integrates temporary erosion control measures with permanent erosion control features built into the design of the project which the Coast Guard feels will provide for effective erosion control both during and after construction. There are no provisions in the contract for additional payment to the contractor to compensate him for his erosion control efforts, such as force account or change order. He included in his original bid any costs he may have contemplated for this item of work.

For the purpose of this presentation we have grouped erosion control measures peculiar to the project into two categories, permanent and temporary. First I would like to discuss permanent erosion control features applicable to the Coast Guard's FY 1972 family housing project.

Wherever possible, we have left a buffer zone of existing undisturbed vegetation around the periphery of our housing site. This strip of heavy existing growth we feel will act as an effective filter media to catch any soil particles carried by storm runoff and prevent them from being a source of pollution. Immediately outside of our housing site there are additional large areas of undisturbed vegetation which will increase and supplement the buffer zones that we have provided in our design. Although we have listed the provision of a strip of existing vegetation around the site under permanent erosion control measures, we feel strongly that this design

W. Dung

feature will also be quite effective during construction in containing soil particles being carried by storm runoff.

Secondly, where there is channelized flow within our on-site storm drainage system, our design provides for either concrete lined channels or grouted riprap surfaces as a permanent erosion control measure.

Thirdly, at the southeast portion of the site the grading design calls for extensive fill over a natural watercourse. In this high fill area, subsurface drains in the form of 6-inch perforated cement asbestos pipe will be installed. This will prevent the accumulation of groundwater in the fill area and will help to provide stability to the fill.

Next, as an erosion control measure and to further insure the stability of our fill slopes in the areas where fill is to be placed over the watercourse, we are requiring that large boulders or broken pieces of concrete be placed at the outside toes of the fill slopes.

Next, our landscaping plan calls for lippia ground cover placed 18 inches O.C. at all cut and fill slopes. The contractor has agreed as part of his erosion control plan to plant this ground cover immediately after grading operations are completed in a particular area. This will help to minimize erosion and insure that upon project completion the ground cover will be well established.

Lastly, our boring logs and a visual inspection of existing excavation in the general area of the housing site indicates that much of the geological formation in the area consists of mudrock. This is readily apparent in deep cuts made as a part of the Moanalua Freeway excavation. Consequently, we feel that this will be a spinoff benefit to us from the erosion control standpoint since mudrock is a much more stable material than loose earth or silt.

Next I would like to discuss temporary erosion control measures which are part of our construction project.

Our contractor has outlined in his erosion control plan a method of grading operation which we feel represents good, sound erosion control practice during construction.

First of all, the contractor's sequence and schedule of construction calls for his grading operations to be accomplished in two distinct phases involving separate grading areas for each phase.

John, do you want to slide that down, please? Thank you.

Essentially, he has divided the site into two equal parts for his grading work, Area 1 on the east and Area 2 on the west. Grading in Area 1 will be completed prior to commencement of grading Area 2.

We also have a provision in our specification that the contractor cannot expose an area in his grading operation in excess of 750,000 square feet or approximately 17 acres at any one time. The division of the project site into two separate grading areas will result in maximum grading areas of less than 15 acres at any one time, which will be well within the established allowable exposed area.

Due to the contractor's concern over a potential dust problem in the area, he plans to keep denuded areas to a minimum but still maintain an efficient operation. For instance, grading work on an existing stock pile of top soil material at the site which was placed there as part of the Phase I construction will be scheduled for the latter stages of the project. Existing vegetation on this stock pile will not be disturbed or removed until just prior to excavation of the stock pile.

In addition to all of the erosion control measures which we have discussed which the contractor plans on implementing, perhaps of more significance is his overall construction schedule wherein he plans to complete all heavy grading work prior to the start of the rainy season in November. Although the Coast Guard and the contractor are not placing total reliance on this factor alone, we feel that unless there is an abnormal occurrence of heavy rainfall during the summer months this is a factor that is strongly in his favor and will insure that our control of erosion will be effective during construction.

During the development of the contractor's erosion control plan, it was determined that a highly effective and efficient sedimentation or desilting basin could be constructed at relatively low cost to serve a large portion of the housing site. This is possible due to the presence of an existing 8 feet by 8 feet concrete box culvert located downstream of the existing watercourse where a roadway crosses the watercourse southwest of the project site. Since the culvert is located in an undeveloped parcel owned by the Army, permission was requested from U.S. Army Hawaii to construct a temporary sedimentation basin in their adjoining property. The Army has been most cooperative and understanding of our needs and in the spirit of the conference objectives has acted favorably to our request.

The contractor proposes to construct a concrete bulkhead which will form a barricade across the lower half of the culvert entrance. This will slow the water and trap sediment before the water flows over the top of the concrete bulkhead into the culvert. Boulders will be placed directly in front of the concrete bulkhead as a debris catcher and to act as a filter for a perforated metal pipe which will protrude through the bulkhead and allow drainage of the basin immediately after a rainstorm by means of a gate valve, and thus eliminate any danger to children that may inadvertently wander into the area. The contractor will be required to periodically clean the basin of any accumulated debris or silt and remove all temporary construction upon completion of the project.

Approximately 75 percent of the storm runoff from the housing site will pass through the temporary sedimentation basin. Consequently, we feel that the sedimentation basin will be a very effective backup erosion control measure supplementing the other steps that have been mentioned for permanent and temporary erosion control.

In the northwest corner of the site, which is one of the few areas that will not be served by the sedimentation basin, the contractor will construct a temporary earth berm to divert and retain any soil particles. If there is any indication that the earth berm is not effective in controlling the flow of soil particles in the storm runoff, consideration will be given to the construction of another sedimentation basin at the northwest corner of the project site.

W. Dung

At this time I would like to go back to the sketch and point out some of the permanent and temporary erosion control measures in more detail.

We have crossed out the areas around the periphery of the site where existing vegetation will not be disturbed. This is a buffer zone that will trap any soil particles that may flow out of our project site, and as we mentioned earlier, these areas of existing vegetation will be supplemented by adjoining areas, particularly in the lower sector. None of the existing vegetation will be removed from those areas.

Also shown on this sketch is the area of high fill where we will be installing our sub drains and also providing boulders at the toes of the high fill slopes and we have also indicated the separation of the two grading areas, the upper being Area 1 on the eastern portion and the lower area being Area 2. And as I mentioned earlier, grading will not be started in Area 2 until all the grading work has been done in Area 1.

And we have also indicated generally the location of the proposed earth berm at the lower portion of the site which will retain and divert any soil particles.

We do have a few slides to give you a general idea of the terrain that we will be working in that we would like to show for just a couple of minutes.

(Slides.) (See pp. 205(a) to 205(e).)

This is a shot of the watercourse that traverses the southern portion of the housing site. The extent of our clearing and grubbing is as indicated. The existing vegetation as shown here will essentially remain undisturbed as far as the southern portion of the area is concerned on the right-hand side of the slide. All that brush will remain in place and will not be disturbed.

This is a typical shot of the terrain taken from the Halawa Interchange. This is Mahie on the Halawa Interchange and you are looking up toward the Coast Guard family housing site. The forward edge of this existing vegetation will remain undisturbed and will help as a buffer zone to catch any soil particles. I believe that the front edge of the brush there is Halawa Stream.

Here is another shot which shows the juncture of the Coast Guard housing site with Halawa Interchange. That ramp there is Mahie and this gives you an idea of how much building is going on in this one sector of the Halawa Interchange in comparison to what was anticipated when they first started the project.

This is a downhill shot into the watercourse where we propose to put our subdrains and also develop a high fill to the area. You can see Pearl Harbor basin in the background.

This is the existing culvert where we propose to construct a temporary sedimentation.

This shot shows the upstream face of the culvert, where we propose to put the concrete bulkhead.

This is another shot of the watercourse which shows where the watercourse intersects the boundary and goes into the Army process.

Here is another shot of the watercourse area. It shows the watercourse meandering down into heavy brush which will not be disturbed.

This is a shot taken downstream of the box culvert. You can see a little bit of the fillout area in the background and it gives you an idea of how heavily grown over the watercourse is at that point.

In closing I would like to assure the conferees present that the Coast Guard has and will continue to take active and positive measures to control erosion at the Coast Guard Phase II housing site both during and after completion of construction. To date our contractor, Del E. Webb Corporation, has been most cooperative and reasonable in our joint efforts to develop an effective erosion control plan and we have every reason to believe that this excellent relationship will continue through the entire construction period. The Coast Guard stands ready and willing to assist and cooperate by taking whatever steps are necessary to curb the pollution of Pearl Harbor and its tributaries.

Thank you.

MR. STEIN: Thank you for the comprehensive statement.

Are there any comments or questions?

MR. O'CONNELL: Yes.

This contract, is this under construction now?

MR. DUNG: Yes, sir, the contract was awarded in April.

MR. O'CONNELL: And the plan you have described is in the contract as it stands, all the features of it?

MR. DUNG: That is correct, that is all locked into the contract.

MR. O'CONNELL: I think it is obvious that the Coast Guard gave a great deal of attention to this problem, as is proper, since erosion represents one of the most significant threats, I think, to the waters of Pearl Harbor, and I would hope that similar projects undertaken by governmental bodies likewise paid attention to this problem.

I have one other question that is somewhat unrelated, but what sewerage system serves this project?

MR. DUNG: Sir, the sewage aspect of this project is that in our Phase I design we have made provisions for hooking in the Phase II project, so what is involved is to run our sewer back into the Phase II sewage pumping station which discharged into the city system and--

MR. O'CONNELL: Which city system is that?

MR. DUNG: City and county of Honolulu.

MR. O'CONNELL: I mean does it go to Sand Island or--

MR. DUNG: Right, Sand Island.

MR. STEIN: Sand Island? When do you expect to hook into that city system?

MR. DUNG: Well, I would say probably by the end of next summer we should be tying into it.

MR. STEIN: Is that Phase I?

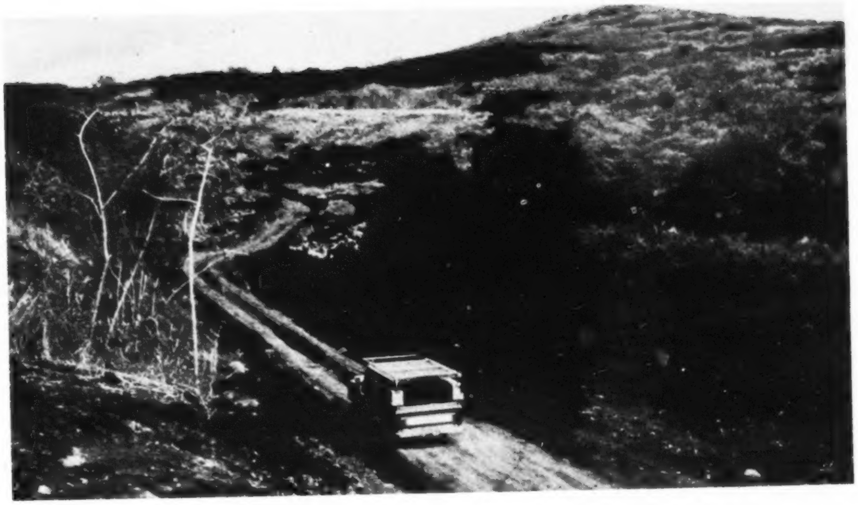
MR. DUNG: Well, Phase I was completed in 1968, so that--

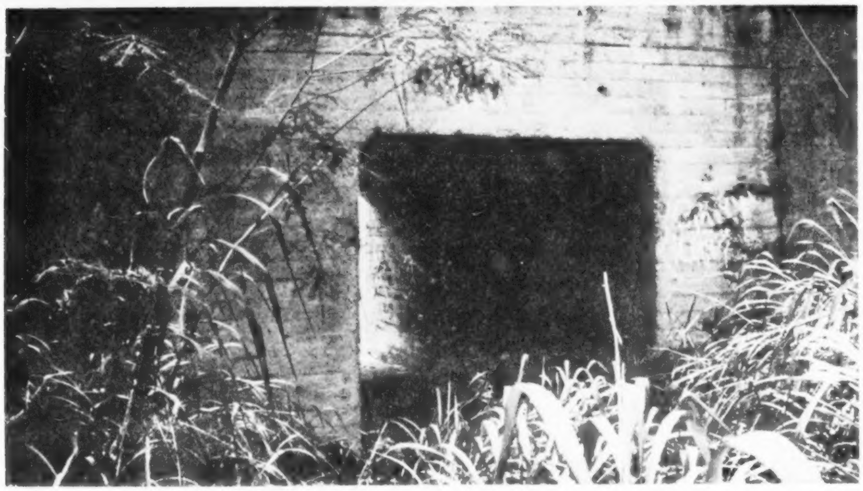
MR. STEIN: And that is in the city system?

MR. DUNG: Yes, sir.

MR. STEIN: And Phase II will also go in the city system?

MR. DUNG: Yes, sir.





MR. STEIN: I don't guess the city system will have treatment by then, so that sewage will eventually find its way in the waters untreated.

MR. DUNG: Beg pardon, sir?

MR. STEIN: When you hook into the city system, if they don't have treatment, and I don't hear that they are going to have any by then, the sewage from the Coast Guard will be going into the waters of Hawaii untreated.

MR. DUNG: Well, I feel that that will probably represent just one small iota of the total.

MR. STEIN: That is what everyone feels. O. K.

Any other questions?

Thank you.

Is Mr. Melvin Lepine here?

MR. LEPINE: Yes, sir.

MELVIN LEPINE
DIRECTOR, HARBORS DIVISION
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII, HONOLULU, HAWAII

MR. LEPINE: Sir, my name is Melvin Lepine. I am Chief of the Harbors Division of the Department of Transportation, State of Hawaii.

M. Lepine

I am coming to you today to comment on Recommendation 16 of your previous conference. The recommendation reads as follows:

> By July 1, 1972, the State Harbors Division, Department of Transportation, shall conduct an investigation of existing and proposed underground oil transmission lines to determine whether leakage is occurring or threatened and develop a program for maintenance and replacement to eliminate any hazards to water quality that exist.

The Department of Transportation certain acknowledges this recommendation, but we are unable to fully accept it or to comply with it at this time.

With the exception of the responsibility for establishing the design, maintenance and operational standards for the oil transmission lines that may occupy the State-owned energy corridor from Barber's Point to Honolulu Harbor, the State does not own or have any management jurisdiction over any field pipelines in the Pearl Harbor area. We are, however, authorized by Section 266-3(b) Hawaii Revised Statutes to promulgate rules and regulations to prevent the escape of fuel or other oils into the harbor, shore waters or streams either from any vessel or from pipes or storage tanks upon the land. Except for some general provisions relating to pipelines and oil discharges in the Honolulu Harbor and other harbors of the State under our rules and regulations of Tariff No. 3, this provision has not been specifically implemented.

If there is to be elimination of any hazard to water quality provided by fuels and underground oil transmission lines, it will be necessary for the State to establish by regulations construction operational standards to be followed by owners of the underground oil lines. The Department of Transportation is willing to assume this responsibility and will seek authorization and financing from the Legislature. Any standards developed for the installation, operation, testing and maintenance of pipelines will be compatible with those standards developed by the Federal Government.

We are also willing to seek financing for the investigation proposed in Recommendation 16. We have no funds at this time to be used for this purpose. The adequate maintenance and timely replacement of deteriorated oil lines would be required or could be required by regulation but would be properly the responsibility of the owners and not the State.

I can comment briefly on rather casual investigation conducted in the course of the installation of a 16-inch pipeline by Honolulu Independent Refinery on Barber's Point to Pearl City. This line occupies one of a possible five lines in the energy corridor on right-of-way acquired by the State. The State did set the specifications and we followed the national standards and the industry standards on that. We also required the owner to prepare an environmental impact statement, which was duly processed and cleared, and we had and developed a contingency plan and that is on record.

Speaking of the latter, one of the recommendations I understand was that we should prepare a contingency plan. Well, there is such a plan in existence now. It is a State of Hawaii marine oil spill disaster plan and this was developed on July 1, 1970, by the Department of Transportation and the Department of Defense of the State, so that is in effect.

Standard Oil, of course, has their own contingency plan and the Navy has their contingency plan.

That is all I have to report, sir.

MR. STEIN: Any comments or questions?

MR. O'CONNELL: You say that the Department of Transportation will seek authorization and financing from the State legislature?

MR. LEPINE: Yes, sir, this would be my recommendation to the Department.

MR. STEIN: Well, this is one of these, and I understand your position, but evidently this has not been carried out and you are going to have to determine, depending on legislation and the recommendation for your Department, whether it be done. Wouldn't it be useful if after getting this report we could consider exploring this with the Federal Department of Transportation, the Hawaiian Safety Operation, and with the Defense Department installations and see if it would be possible if we could get a Federal evaluation of this problem so we get the task done? Would there be any objection to that if we did that? I think it might be a lot faster and give us a groundwork if you got the legislation through.

MR. LEPINE: All right, sir.

MR. STEIN: Because otherwise, again we all hope there is not going to be any break of this, but I think if we wait on this and something does happen and we haven't taken all available efforts, we may rue the day.

MR. LEPINE: As a matter of fact and information for you, sir, in the installation of the new pipeline we came across two problems, one was the Navy field storage around Pearl Harbor where there was actually gasoline leaking, the Navy is aware of this, it did not cause any pollution problems that we know of, and then we found some oil from Standard Oil pipeline leaks.

They are, of course, aware of this and they are making repair to the lines now.

MR. STEIN: All right. Then let's leave it this way. Either the region or us will get in touch with the United States Department of Transportation and see what help they can give us in conducting the investigations. I hope that they will, and we will make this recommendation, conduct that in full cooperation with the State.

MR. LEPINE: Thank you, sir.

MR. STEIN: All right. Thank you.

Does Mr. Matthews want to make a statement?

Yes, go ahead.

WILLIAM J. MATTHEWS, CHAIRMAN
COUNCIL ADVISORY COMMITTEE ON THE GRADING ORDINANCE
HONOLULU, HAWAII

MR. MATTHEWS: My name is W. J. Matthews. I am Chairman of the Council Advisory Committee on the Grading Ordinance. I have been asked by my committee to raise four questions.

First I would like to say I am not a lawyer nor are members of my committee lawyers. I have been in contact with the Deputy Attorney General of the State and also with the Deputy Corporation Counsel of the city and county to ask if they could provide answers to these first three of my questions. As is normal when you ask legal questions, you frequently get an answer such as,"Yes, they sound as if they are valid questions." However, we would like to have more definite answers to these questions and I will state them here as a preamble to the fourth question which is addressed to your enforcement conference.

The first question is:

> Is there any State law which provides legal authority for the State Department of Health to require prior certification of the proposed erosion controls?

This is in reference to Section 23-2.4F, which the Administration has included in their proposed draft of the grading ordinance. The city administration in their effort to be the good guys has used the exact wording as was given in your Recommendation 12.

> It has been alleged that the authority of the Director of the State Department of Health in this matter is effective only after and if erosion takes place and if that erosion causes violation of State

water quality standards.

The second question is:

> If State law does not provide this authority, can an ordinance of the city and county legally provide the Director of the State Department of Health with this authority?

And the third question is:

> If the city council were willing to grant this authority to the Director of the State Department of Health, would he in fact be willing to accept this responsibility to certify as to the acceptability of the proposed erosion controls?

The question which I address to this conference is:

> If any of the above questions are valid, will the conference accept a substitute clause under the section on Permit Limitations as follows:
>
> 'That the permittee shall comply with State water quality regulations.'

And second:

'Upon issuing a grading permit,

the Chief Engineer shall notify the
State Department of Health that the
permit has been issued.'

MR. STEIN: Are there any comments or questions? If not--

MR. O'CONNELL: I just have one. I am not going to try and answer those legal questions, certainly.

The suggested language down below has some good points to it. There is one thing that I might suggest. You say that upon issuing a grading permit the Chief Engineer shall notify the Department of Health. It might be more useful if the notification took place upon receipt of an application for a permit.

But that is all the comment I want to make.

MR. STEIN: Yes. Well, I think that kind of comment is pertinent. I think these questions are really directed to the State.

MR. MATTHEWS: Right.

MR. STEIN: You know, I am a lawyer. I feel I can answer them, but I have been around long enough to know that when it comes to a question of State law, I am going to let the State Attorney General's office handle that and not me.

But I do think that these points should be taken up in your work with the city and the State in developing a joint proposal. As I see this, you are not very far apart. You both want to do this. The question is, and it may have related to the wording that we have proposed that we put in our Recommedation 12, that "The permittee obtain a certification by the State Department of Health of the acceptability of the proposed erosion controls." I think the question that you have is the city and the county of Honolulu figure that that should be their prerogative and that they should do it with the State overall approval of their program. However you work that out, I think it is a question of the city and county of Honolulu getting together with the State and coming up with a proposal and giving it to the conferees, and I think we can act on this pretty well.

I do think you analyzed the problem and that your suggestion and the one of Mr. O'Connell is an approach toward a solution which might be satisfactory. But again we would have to hear from the State on what it feels its interests are on this matter before we would like to consider this.

So why don't we again ask you to follow the suggestion we made earlier, get together with the State, come up with an agreed-upon procedure for this and submit it and we will see if we can act on that as soon as possible.

Thank you.

MR. MATTHEWS: Thank you.

MR. STEIN: That is the last person I have scheduled. Does anyone else want to speak? Yes.

MRS. HERTLEIN: May I ask a question?

MR. STEIN: Why don't you come up so I can hear you? Don't be bashful. Come on. Let me have your name for the record.

CLARA HERTLEIN
PRIVATE CITIZEN
HONOLULU, HAWAII

MRS. HERTLEIN: Mrs. Clara Hertlein.

I wanted to ask a question about the zero discharge standard that was passed in March, United States Senate Bill S.2770 relating to the matter of national policy achieving a zero discharge standard by 1985. I wanted to ask you how come you are asking Hawaiian Electric to build that pipeline to use their hot water when you know that when the zero discharge standard takes effect in 1985 that their pipeline will automatically become obsolete? They will be spending $2.5 to $6.5 million on this and they are already at the limit of their bonding, and if you require them to build something that will automatically become obsolete in 1985, I think someone in the State is neglecting their duty of notifying them of what the law is.

MR. STEIN: Well, I agree with your sentiments, but let's follow this through. While the Senate has passed a bill having a zero discharge, as you indicated, the House has a little different version of that and they talk about a goal of a zero discharge. This is a difference between the House and the Senate. The bill is now in conference between the House and the Senate and that is not the law of the land yet. We are awaiting what comes out.

Now, the second point is about--let me take the third first--about Hawaiian Electric being at the limit of their bonding. I don't want to speak for a private utility, but I suspect they have some extensive limits to what they can borrow.

Your middle point is the point that I thought I called to the attention of Mr. Bell when he spoke about that once-through cooling and discharge. I pointed out to him that he would be facing a permit within a few months and asked him to consider that.

MRS. HERTLEIN: Well, I am not representing them.

MR. STEIN: No, but I think those are the answers to that. I think the company and most of the companies have to face the fact that if they are going to get a permit, and they recognize that by 1976 to 1981 they are going to have to put in best practicable treatment, between 1981 and 1986 they are going to have to put in best available treatment, and after 1986, and the Congress has not ruled on any of these things yet, they may be faced with a no discharge requirement, that all companies, whether steel mills, paper mills, packinghouses, meat products, so forth and so on, have to consider whether it is worthwhile doing this or going to the closed system as soon as possible.

MRS. HERTLEIN: Well, why are you imposing a 2-year limit on them making adjustments to Waiau plant because--

MR. STEIN: I am sorry?

MRS. HERTLEIN: --between 1985 and 1974 there are 11 years in which one could make a lot more adjustments.

MR. STEIN: This conference is limited to Pearl Harbor.

MRS. HERTLEIN: Yes. Well, the Waiau plant is relating to Pearl Harbor.

MR. STEIN: I am sorry?

MR. O'CONNELL: Waiau.

MR. STEIN: I am sorry, I don't think I understood your question.

MRS. HERTLEIN: Never mind.

MR. STEIN: All right.

I would like to summarize the conference and the progress meeting that we have had, and I am going to follow the recommendations made and adopted by the conferees at the last session of the conference in September 1971.

Items 4 and 5 deal with the Honouliuli system. Representation from the city indicates that they think the schedule adopted in 1971 is too tight. They indicated that they think a more realistic schedule would require 2 extra years and they are not on schedule in light of what we asked for in 1971.

I would think on the positive side the city has really thought through this project and recognized in its own mind what it can do and when it can do it and what problems are involved. I think we have a tremendous gain on that, because the statement of the Mayor showed a full awareness of the financial and the engineering and the logistical problems and site acquisition problems concerned.

I would recommend that the city might want to get together with the State and with the Federal people to see if it can reappraise its suggestion of the time schedule to see if we can proceed with somewhat less than its 2-year extension. Not the least of the problems is the dovetailing of the military installations with this project, because I think, as my summary will reveal, the military have been proceeding and they will be prepared to move ahead with their portions at an earlier stage in accordance with the requirements which were adopted in 1971 and the project will move together much more smoothly if these mesh and will be a lot less expensive, I think.

Mayor Fasi says give them the money and he can do better than the State or Federal Government. I for one would like to give them the chance, but we have got to come up with a project so we can ask for the money and, as I have indicated, I will do my best to see that the money is available. But here is an opportunity for the city officials to show that they can do better than the State and the Federal Government or both combined, and if they do it I will be the first to take my hat off to the city of Honolulu.

On No. 6, about the Navy sewage treatment facilities at Barber's Point and Iroquois Point, that is on schedule.

On the No. 7, on the city and county of Honolulu taking the necessary action to exclude from the harbor the sewage presently reaching the harbor from the watershed of the Waikele Stream, that is on schedule.

On the Schofield Barracks problem covered in No. 8, that is on schedule.

No. 9, the Air Force problem on the Waikele watershed plan and the Wheeler Air Force Base problem, that is on schedule.

Summary - M. Stein

On the problem that the city and county of Honolulu have to establish controls to prevent leaching of pollutants in the Waipio Dump into the waters of West Loch is behind schedule and that is because of the complexities of the problem because of the nature of the leachates indicated here. I think we have a good lead on working that forward. I do think that Mr. Charles Seeley, our Hawaiian representative, has given considerable thought to the problem and has gotten some of our experts in to check this out. We have some suggestions to make. I think the city and county of Honolulu should get together with the Federal people and the State people and see if we can come up with a solution. I know this is going to be more sophisticated than we probably imagined at first, but I think it is within reach and with application and good will by all we should be able to come up with a program that can meet that.

On the problem of the Navy controlling wastes from vessel discharges into Pearl Harbor, that is substantially on schedule and I think they are probably to be commended. In the years past I worked on boat pollution both with the Navy and private boats, and I don't think I am giving away a military secret when I say if you have got to collect or control all those pipes on a ship and try to bring them to a point where you can control anything, including waste discharge, you have got a problem. There isn't an inch of room to move, usually, on an old ship and this does present a formidable problem.

On the question of erosion controls, this is something which has not been resolved yet. As we have heard from Mr. Matthews, the city and the State, we commend that they get together because I think what is holding this up is a difference over procedures and prerogatives rather than the substance of the problem. We are all agreed that this should be done,and I think you have to work out the procedures and get a firm course of action and an agreement so this can be worked out.

The Oahu Sugar Company is on schedule, but there are some questions they will have to resolve, such as the dam in Walker Bay. However, we have been assured that the Oahu Sugar Company will meet the deadline,and I think they have shown a substantial progress and evaluation of the problem and moves which indicate that they are making a bona fide attempt, and I am sure that this deadline will be met. So in essence we can say the Oahu Sugar Company is on schedule and we all recognize that they have a few decisions and problems to meet in the future. Now, again this problem relates, I might add, to the problem faced by the last questioner that the Oahu Sugar Company is going to have to decide what tack they are going to take in order to meet the permit requirements in the future, and they are going to have to make this evaluation.

We had an excellent report from the major pineapple growers in the area and they are on schedule.

The Department of Agriculture, in cooperation with the Soil Conservation District, this is No. 15, develop a plan for a major study of soil erosion from undeveloped lands, on schedule.

The question of 16 on the investigation of existing and proposed underground oil transmission lines, the State Department of Transportation needs legislation, funding and authority to do this, at least the representative who came here, Mr. Lepine, indicated he would recommend this, but legislation and funding, as we know, will take some time. We are going to ask our region to see if we can get the United States Department of Transportation in its pipeline safety program operation to cooperatively with the State see if it can conduct this investigation and provide a basis for an active program in this area.

By 1972 the State Department of Health is to identify and prescribe control requirements on thermal discharges to Pearl Harbor by the Hawaiian Electric Company. That date has not been met. We know that the State Department of Health and the Hawaiian Electric Company have this matter under discussion now and we look forward to a rapid conclusion of those discussions and an issuance by the State of the requirements on this.

That the State by July 1, 1972, review all existing and pending permits for waste discharges. I don't know that that was covered, but--

I don't think that that has been done quite yet, has it, Dr. Minette?

DR. MINETTE: Not yet.

MR. STEIN: That has not been completed quite yet.

Now, on 19, the Waipio oxidation ponds, we know these ponds are operating now. They have been fenced. And while they are operating now, we raised certain questions and reservations about them. If you are going to have a continued proliferation of housing in that area and wastes are going to go to those ponds, provision must be made so these ponds will continue operating and not go sour. And without going into it, the consequences of this happening may result in some severe restrictions on development in the area.

And I think that concludes the recommendations and the progress report.

On the whole, I do think that the report is encouraging. Perhaps the biggest problem we have is that the major project, the Honouliuli project, may be falling behind the schedule we had set up in 1971. If the judgment is that schedule was too optimistic, I think the State and the city and our people should get together and come up with a recommendation so we can evaluate that.

However, I did think that the only problem we have in all these recommendations is the question of slippage in time. That is, no one has said they are not going to do it. And evidently the program has stood up and I think we are moving toward the solution.

There are problems in these presentations because a good many people can tell you what they are going to do in the future. We have heard that here. It is more rare that we hear of what people are doing or have done.

I especially want to commend the military for coming through with a program. They have this worked into the Federal budget process, the plans and the monies are forthcoming, and I think we can safely say that the military is really moving in this area. I have been coming to Hawaii and Honolulu in particular for many, many years and I wasn't sure I would ever see that day, but it is here.

However, in dealing with the municipal pollution we still have two major projects and you are not going to clean up the city or your waters without them. One is outside our jurisdiction and that is Sand Island. The other is the Honouliuli project. The point is, while I think that a lot of the basic preliminary work has been done and we can see the light at the end of the tunnel, I am not sure that we can say, as we are saying with the military projects, that these projects are on their way, that the planning has been completed, that the money is coming in and all you have to do is sign the contract. And until that is done, we have not got the back of this problem licked yet. This is what we have to keep our eye on to try to get that out of the way so we will move forward.

Are there any other comments of the conferees?

DR. MINETTE: I have none.

MR. STEIN: If not, I would like to thank you all for coming and for your cooperation on this. I hope that we are going to make progress on those other two big projects. We have a very funny habit, we are going to be back one way or the other to check. And when I come back here, I like to spend my time on the beach rather than haggle about these problems, and the better we get them settled the more time I will have to spend on the beach.

Thank you all for your wonderful hospitality and we stand adjourned.

(ADJOURNMENT)